Wetlands Restoration Program

2003 Annual Report

N.C. Wetlands Restoration Program
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2003 Annual Report

State of North Carolina
Michael F. Easley, Governor

Department of Environment and Natural Resources
William G. Ross Jr., Secretary

Wetlands Restoration Program
Ronald E. Ferrell, Program Manager

This report is for program activitives from July 1, 2002 to June 30, 2003

Report Figures and Charts

Program Overview

During fiscal year 2002-2003, the N.C. Wetlands Restoration Program (NCWRP) made significant progress in both planning and implementation. Highlights in the planning area include the integration of key NCWRP information regarding Targeted Local Watersheds into the N.C. Department of Environment and Natural Resources (DENR), Division of Water Quality's Basinwide Water Quality Management Plans. This increases programmatic visibility and also fosters efficiency among DENR divisions with overlapping tasks (e.g., public outreach, reporting).

Summaries of information in the basinwide plans are available on the NCWRP website. Watershed Restoration Plans for five river basins were completed this fiscal year.

Also, with regard to planning, the NCWRP continues to embark upon Local Watershed Planning to identify high quality compensatory mitigation projects in a watershed context to offset unavoidable impacts associated with transportation improvement projects and other development-related activities. Information on Local Watershed Planning is on the NCWRP website.

During this past fiscal year, efforts have resulted in a total of 37 stream and wetland restoration projects that are either completed or in construction, totaling 127,632 linear feet of streams and 466.9 acres of wetlands. An additional 35 projects are in the design phase and upon completion will result in the restoration of 91,480 linear feet of streams and 478.5 acres of wetlands. In addition, policies have been developed and implemented for improved riparian plantings as well as vegetation monitoring techniques.

Finally, the program is currently undergoing significant changes as it combines forces with the mitigation program of the N.C. Department of Transportation (NCDOT) to develop the Ecosystem Enhancement Program. This exciting new program is receiving national recognition in areas of organizational innovation and collaboration. Programmatic development is proceeding quickly and details on its progress will be available soon.

NCWRP Website -- http://h2o.enr.state.nc.us/wrp
Basinwide Water Quality Plans -- http://h2o.enr.state.nc.us/basinwide/
Local Watershed Plans -- http://h2o.enr.state.nc.us/wrp/plans/localplan.htm

The North Carolina Wetlands Restoration Program is an innovative, nonregulatory program established by the North Carolina General Assembly in 1996 to restore wetlands, streams and streamside (riparian) areas throughout the state.

This document has been approved by:

_____

Ronald E. Ferrell, Program Manager
NC Wetlands Restoration Program

Date:_____

This document has been prepared to fulfill the annual reporting requirements of the N.C. Wetlands Restoration Program as described in NCGS 143-214.13.

Section 1 — Accomplishments

The last fiscal year (FY) brought significant activity for the NCWRP. Planning activities, particularly related to Local Watershed Planning, have been accelerated, and the program has more projects underway than ever before. In addition, a new program that will combine the mitigation resources of the NCWRP and the NCDOT is being developed. These movements highlight the success of the program's basic premise, which is to improve the ecological effectiveness of compensatory mitigation projects {NCGS 143-214.9 (4)}.

Planning Initiatives

Watershed Restoration Plans

The 1996 legislation creating the NCWRP requires development of "basinwide plans for wetlands and riparian area restoration" for each of the state's 17 river basins in accordance with the basinwide schedule established by the N.C. Department of Environment and Natural Resources, Division of Water Quality (DWQ). The primary goals of the plans include water quality protection, flood prevention, restoration/protection of fisheries and wildlife habitat and enhanced recreational opportunities. The centerpiece of each plan is the identification of high-priority Targeted Local Watersheds (TLWs) within which there are documented needs and opportunities for stream, wetlands and riparian buffer restoration and preservation.

The NCWRP website contains an in-depth description of the methodology used to target these high-priority local watersheds. It is contained within the *Guide to the NCWRP's Watershed Restoration Planning Strategy (version 1),* which is online at http://h2o.enr.state.nc.us/wrp/pdf/restplans/Planning%20Guide.pdf.

The Planning Branch of NCWRP has been preparing and updating these plans since 1997, working closely with DWQ's Basinwide Planning staff in the context of its 5-year planning cycle (a staggered timeline for producing Basinwide Water Quality Management Plans for the 17 river basins in North Carolina). Originally called *Basinwide Wetlands and Riparian Restoration Plans*, these plan updates are now titled *Watershed Restoration Plans*, reflecting NCWRP's evolution towards a comprehensive watershed-scale approach to

Watershed Restoration Plans — FY 2003 Activities

During FY 2003, from July 2002 through June 2003, *Watershed Restoration Plans* for the following basins were produced by the NCWRP (in chronological order): Chowan; Pasquotank; Neuse; Broad; and Yadkin-Pee Dee. The development of these plans included a standard sequence of steps conducted by NCWRP in soliciting input from interested citizens, environmental groups, other DENR state agencies, and resource professionals living and working in the river basins. This sequence begins with NCWRP Planners making presentations at DWQ basinwide water quality planning workshops at strategically located venues in the basins, and includes the active solicitation of review comments by local resource agency professionals on draft Targeted Local Watersheds.

In addition to the completion of the five Watershed Restoration Plans noted above, NCWRP planners participated in DWQ's initial planning workshops for the Lumber and Tar-Pamlico basins (in the winter of 2002 and spring of 2003, respectively), marking the beginning of the plan preparation/update cycle for these two basins.

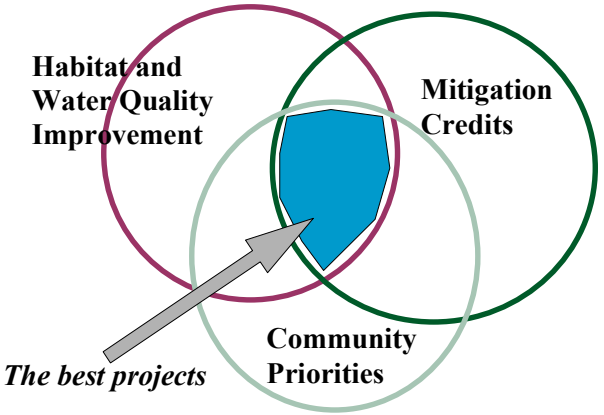
improve the ecological effectiveness of compensatory mitigation efforts.

Beginning with preparation of the Neuse River basin plan update (final DWQ Water Quality Plan completed July 2002), the NCWRP began integrating the Watershed Restoration Plan materials and information (e.g., maps and tables summarizing Targeted Local Watersheds, rationale for selection of specific TLWs, summary of NCWRP restoration projects) directly into the DWQ basinwide water quality plans, which are online: http://h2o.enr.state.nc.us/basinwide. Summaries of the Watershed Restoration Plan for each river basin are also available online at http://h2o.enr.state.nc.us/wrp/publications/pubs2.htm.

Local Watershed Plans

The NCWRP continues the development and implementation of Local Watershed Plans (LWP) throughout North Carolina. The primary purpose of the Local Watershed Plans is to identify the causes of watershed degradation and to develop strategies addressing these problems that are consistent with the objectives of local communities. This process ensures that compensatory mitigation projects are designed and located to replace those functions within each watershed that provide the maximum benefits in restoring and protecting our natural resources while addressing local priorities.

Figure 1-1 NCWRP Identification of High Quality Projects



The NCWRP uses watershed planning to identify projects that will generate the most environmental benefit while meeting community needs and satisfying compensatory mitigation requirements.

Projects that achieve these goals while addressing compensatory mitigation requirements realize multiple complementary objectives and are the kind of projects the NCWRP strives to implement through watershed planning (Figure 1-1). The 2000 Annual Report for NCWRP contains a detailed explanation of the Local Watershed Planning process.

During FY 02-03, work continued on three LWPs initiated in previous reporting periods, while eight additional efforts were begun. During this calendar year, several of the first plans developed by the NCWRP will be completed. A number of these are already yielding restoration projects that further community priorities and address demonstrated watershed needs.

The first two plans completed by the program (New Hanover County in the Cape Fear River basin and Mud Creek in the French Broad River basin) are now available online (http://h2o.enr.state.nc.us/wrp/plans/localplan.htm). These plans demonstrate the ability of watershed planning to attract additional resources for project implementation beyond mitigation. New Hanover County received a $150,000 U.S. Environmental Protection Agency (EPA) Cooperative Agreement grant to implement best management practices (BMPs) to address priorities identified in the plan. In addition, North Carolina State University

secured an EPA 319 grant for $700,000 to implement additional BMPs consistent with the New Hanover County Local Watershed Plan. In Mud Creek, a watershed coordinator located in Henderson County has been funded for two years with EPA (104b3) grant dollars to pursue the implementation of the agreed-upon restoration plan. The concentration of a variety of complementary projects in small watersheds is one of the goals of NCWRP's Local Watershed Planning Initiative, and these types of additional funds and activities are a very positive step toward realizing that goal.

The number of projects implemented by the NCWRP that are a direct result of Local Watershed Planning activities is increasing dramatically. In nine LWP watersheds, there are over 20 projects underway that were identified based on documented watershed needs. These projects include stream restoration, wetland restoration, BMPs and preservation. The majority of these efforts are in cooperation with local entities such as local governments, land trusts and resource agencies. As planning projects continue to mature, this trend will continue to accelerate.

A summary of the location and status of each LWP is provided in Appendix B, Table B-2. Additional information is also available through the NCWRP website, http://h2o.enr.state.nc.us/wrp/index.htm.

Bugaboo Creek

Planting Marsh Grass, Hammocks Beach

Implementation Efforts

At the end of FY 02-03, 72 projects were at or beyond the initial design phase (Table 1-1). The phases of project implementation are described in the text box on page 7. Twenty-six projects were complete, resulting in the restoration, enhancement or preservation of 462.9 acres of wetlands, 66,832 linear feet of streams and 156.5 acres of riparian buffer. Another 11 projects were in construction by the end of FY 02-03 which will provide an additional restoration, enhancement or preservation of four acres of wetlands, 60,800 linear feet of stream and 91.7 acres of riparian buffer. The 37 projects will provide restoration, enhancement or preservation of 466.9 acres of wetlands, 127,632 linear feet of stream and 248.2 acres of riparian buffer. Collectively, these 72 projects will result in the restoration, enhancement or preservation of 945.4 acres of wetlands, 219,112 linear feet of stream and 354 acres of riparian buffer (Table 1-1).

These projects are located throughout North Carolina in 11 different river basins and 34 counties. Seventy-three percent of these projects are located with Targeted Local Watersheds that have been identified by the NCWRP planning process as watersheds in need of restoration activities.

The NCWRP continues to work with landowners, federal, state and local government agencies,

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Phases of Implementation

1. Site Identification
The 'on-the-ground' assessment by NCWRP personnel and private consultants of potential project sites identified through the basinwide and local watershed planning processes.

2. Site Acquisition
The process by which landowners participate in the process by agreeing to the protection of viable project sites through donation or purchase of conservation easements, or through fee simple purchase.

3. Site Assessment
The preliminary step of project design that involves measurement and documentation of existing conditions and functions of viable project sites and the surrounding watershed. Project goals, targeted functions and a conceptual design are established at this stage.

4. Project Design
The production of a final design that provides specifications and drawings to be used for necessary permits, and to guide the construction of the restoration project.

5. Site Restoration
The construction phase of a project in which the physical structure of a site is modified to change the hydrological, geomorphology and biological components of a restoration site.

6. Post-Monitoring
The collection, evaluation and reporting of data following construction to determine if restored sites are meeting project goals. Post-monitoring can extend to five years after restoration activities and will involve the remediation of sites that are not meeting success criteria.

7. Long-Term Maintenance and Management
The periodic inspection of sites after the post-monitoring phase to ensure the protection of sites against unauthorized activities and to identify and implement maintenance.

Table 1-1 Restoration Sites by River Basin Implementation

Project Name	Project ID	Map Location Number	River Basin	Cataloging Unit	County	Wetland (ac.)			Stream (linear feet)	Buffer (acres)	Project Status*
						R/C	Enh	Pres			
Price Park	CF-002-GU-S-PP	15	Cape Fear	3030002	Guilford				1,710	2.8	6
Gillespie Golf Course	CF-002-GU-S-GGC	18	Cape Fear	3030002	Guilford				3,000	3.4	6
Suck Creek	CF-003-MO-S-SC	25	Cape Fear	3030003	Moore				2,700	1.5	6
Sandy Creek	CF-002-DU-SW-SC	27	Cape Fear	3030002	Durham	3			3,000		6
Haw River	CF-002-RK-P-HR	54	Cape Fear	3030002	Rockingham			80			6
Wells Creek	CF-002-AL-S-WC	20	Cape Fear	3030002	Alamance				5,000	5.7	5
Hillsdale Park	CF-002-GU-S-HP	17	Cape Fear	3030002	Guilford				5,000	5.7	5
Tributary to South Fork	CF-002-AL-S-HNP	24	Cape Fear	3030002	Alamance				5,000	5.2	5
Reedy Branch	CF-002-AL-S-RB	22	Cape Fear	3030002	Alamance				2,500	5.7	5
Brown Bark Park	CF-002-GU-S-BBP	16	Cape Fear	3030002	Guilford				2,630	3.0	4
Benbow Park	CF-002-GU-S-BP	19	Cape Fear	3030002	Guilford				1,200	1.4	4
Little Beaver Creek	CF-002-WK-SW-LBC	36	Cape Fear	3030002	Wake	5			5,000		4
Jumping Run Creek	CF-004-HN-SW-JRC	37	Cape Fear	3030004	Harnett	75			5,500		4
Cross Creek	CF-004-CB-S-CC	38	Cape Fear	3030004	Cumberland				2,400	5.0	4
Forest Hills	CF-002-DU-S-FH	28	Cape Fear	3030002	Durham				3,000	5.5	4
Pine Valley	CF-001-NH-S-PV	50	Cape Fear	3030001	New Hanover				2,500	2.9	4
Mary's Creek	CF-002-AL-S-DX	23	Cape Fear	3030002	Alamance				2,500	2.9	4
Cane Creek	CF-002-AL-S-MP	21	Cape Fear	3030002	Alamance				1,500	1.7	4
Little River	CF-004-MO-W-LR	68	Cape Fear	3030004	Moore	75		33			4
		Cape Fear Total				**158**	**0**	**113**	**54,140**	**52**	

Project Type: R/C -- Restoration/Creation; E -- Enhancement; P -- Preservation

Table 1-1 Continued next page

* Project status: 1. Restoration site assessment; 2. Site acquisition phase; 3. Initial design; 4. Design phase; 5.Construction phase; 6. Post-construction monitoring

Continued from previous page: Table 1-1 Restoration Sites by River Basin Implementation

Project Name	Project ID	Map Location Number	River Basin	Cataloging Unit	County	Wetland (ac.)			Stream (linear feet)	Buffer (acres)	Project Status*
						R/C	Enh	Pres			
Payne Dairy	CT-101-AX-S-PD	4	Catawba	3050101	Alexander		3		7,000	12.9	6
Lyle Creek	CT-101-CT-S-WP	5	Catawba	3050101	Catawba				2,300	12.6	6
Brown Branch	CT-101-CL-S-BB	51	Catawba	3050101	Caldwell				7,000	8.0	6
Little Sugar Creek at Freedom Park	CT-103-MK-S-FP	14	Catawba	3050103	Mecklenburg				4,400	6.0	5
Irwin Creek	CT-103-MK-S-WR	56	Catawba	3050103	Mecklenburg				5,000	6.9	4
Stewart Creek	CT-103-MK-S-RS	12	Catawba	3050103	Mecklenburg				6,800	9.4	4
McIntyre Creek	CT-103-MK-S-MC	11	Catawba	3050103	Mecklenburg				5,350	7.4	4
Eco-Park	CT-101-MK-S-EP	72	Catawba	3050101	Mecklenburg	2	8		2,000	4.5	3
			Catawba Total			**2**	**11**	**0**	**39,850**	**67.7**	
High Vista	FB-105-BN-S-HV	1	French Broad	6010105	Buncombe				3,500	4.3	6
Clear Creek	FB-105-HD-S-CC	3	French Broad	6010105	Henderson				1,200	6.4	5
Hendersonville	FB-105-HD-W-HW	57	French Broad	6050105	Henderson	15					4
King's Creek	FB-105-TR-S-KC	2	French Broad	6050105	Transylvania				2,300	5.2	3
			French Broad Total			**15**	**0**	**0**	**7,000**	**15.9**	
Middle Swamp Creek	LU-203-RB-W-MSC	58	Lumber	3040203	Robeson	6	5				4
			Lumber Total			**6**	**5**	**0**	**0**	**0.0**	
Hominy Swamp Creek	NU-203-WS-S-HSC	41	Neuse	3020203	Wilson				2,232	5.0	6
Beamon's Run	NU-203-GN-B-BR	43	Neuse	3020203	Greene					19.0	6
Howell Woods	NU-201-JS-W-HW	42	Neuse	3020201	Johnston	20	80			5.0	6
Kentwood Park	NU-201-WK-S-KP	33	Neuse	3020201	Wake				3,000	5.5	6
Chavis Park	NU-201-WK-S-CP	32	Neuse	3020201	Wake				2,500	4.6	6
Smith/Austin Creek	NU-201-WK-SWB-SAC	30	Neuse	3020201	Wake				9,500	32.0	6

Project Type: R/C -- Restoration/Creation; E -- Enhancement; P -- Preservation; * Project status: 1. Restoration site assessment; 2. Site acquisition phase; 3. Initial design; 4. Design phase; 5.Construction phase; 6. Post-construction monitoring

Table 1-1 Continued next page

Continued from previous page: Table 1-1 Restoration Sites by River Basin Implementation

Project Name	Project ID	Map Location Number	River Basin	Cataloging Unit	County	Wetland (ac.)			Stream (linear feet)	Buffer (acres)	Project Status*
						R/C	Enh	Pres			
Richland Creek	NU-201-WK-S-RC	34	Neuse	3020201	Wake				300	0.5	6
Bertie Creek	NU-201-WK-S-BC	31	Neuse	3020201	Wake				1,200	2.2	4
Stillhouse Creek	NU-201-DU-S-SC	59	Neuse	3020201	Durham				1,200	2.8	4
Whitelace Creek	NU-202-LN-SW-WC	44	Neuse	3020202	Lenoir	10	5		3,000	0.0	4
Prestonwood G.C.	NU-201-WK-S-PW	35	Neuse	3020201	Wake				3,000	3.4	4
Wake Forest C.C.	NU-201-WK-S-WF	29	Neuse	3020201	Wake				3,400	3.9	4
Ellerbee Creek	NU-201-DU-S-EC	26	Neuse	3020201	Durham				2,500	2.9	4
			Neuse Total			**30**	**85**	**0**	**31,832**	**86.8**	
Brush Creek	NW-001-AG-S-BC	60	New	5050001	Alleghany				4,000	7.3	6
			New Total			**0**	**0**	**0**	**4,000**	**7.3**	
Knobs Creek	PA-205-PA-P-KC	62	Pasquotank	3010205	Pasquotank			19			6
Charles Creek	PA-105-PA-SW-CC	61	Pasquotank	3010105	Pasquotank	2			1,500	1.7	4
Richard Watts	PA-205-PE-SW-RW	67	Pasquotank	3010205	Perquimans	47			1,500		3
			Pasquotank Total			**49**	**0**	**19**	**3,000**	**1.7**	
Snow Creek	RN-103/104-SK-S-SC	8	Roanoke	03010103/04	Stokes				3,000	3.4	4
			Roanoke Total			**0**	**0**	**0**	**3,000**	**3.4**	
Bear Swamp Creek	TP-101-FR-S-BSC	39	Tar-Pamlico	3020101	Franklin				1,500	3.4	6
Louisburg	TP-101-FR-S-LB	40	Tar-Pamlico	3020101	Franklin				1,700	3.9	4
Billy's Creek	TP-101-FR-S-BC	69	Tar-Pamlico	3020101	Franklin				1,800	4.1	4
East Tarboro Canal	TP-103-ED-SW-ETC	70	Tar-Pamlico	3020103	Edgecombe	16			7,000		3
UT Hendricks Creek	TP-103-ED-SW-HC	71	Tar-Pamlico	3020103	Edgecombe	2			1,500		3
			Tar-Pamlico Total			**18**	**0**	**0**	**13,500**	**11.4**	

Project Type: R/C -- Restoration/Creation; E -- Enhancement; P -- Preservation
* Project status: 1. Restoration site assessment; 2. Site acquisition phase; 3. Initial design; 4. Design phase; 5.Construction phase; 6. Post-construction monitoring

Table 1-1 Continued next page

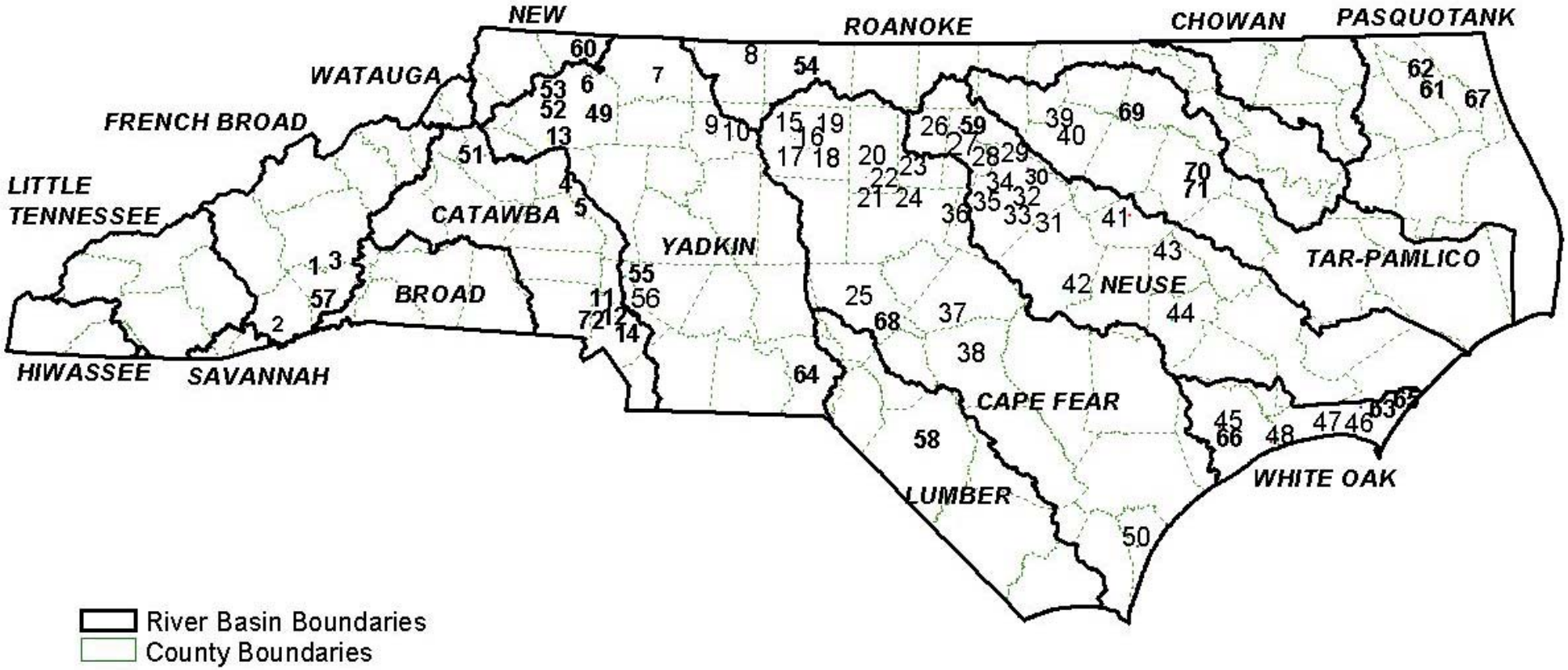
Continued from previous page: Table 1-1 Restoration Sites by River Basin Implementation

Project Name	Project ID	Map Location Number	River Basin	Cataloging Unit	County	Wetland (ac.)			Stream (linear feet)	Buffer (acres)	Project Status*
						R/C	Enh	Pres			
Sturgeon City (Phase I)	WO-001-ON-W-SC1	45	White Oak	3030001	Onslow	3					6
Hammock's State Park	WO-106-ON-W-HSP	48	White Oak	3020106	Onslow	0.3					6
Jumping Run Creek	WO-106-CR-W-JRC	47	White Oak	3020106	Carteret	4.4					6
North River	WO-106-CR-W-NR	63	White Oak	3020106	Carteret	250					6
Maritime Museum	WO-106-CR-W-MM	46	White Oak	3020107	Carteret	0.2					6
Sturgeon City (Phase II)	WO-001-ON-W-SC2	66	White Oak	3030001	Onslow	2.5					4
North River (II)	WO-106-CR-W-NR(II)	65	White Oak	3020106	Carteret	165					4
		White Oak Total				**425.4**	**0**	**0**	**0**	**0.0**	
Stone Mountain	YD-101-WL-S-SM	6	Yadkin	3040101	Wilkes				9,590	19.5	6
Beaver Creek	YD-101-SU-S-BC	7	Yadkin	3040101	Surry				4,000	9.2	6
Bugaboo Creek	YD-101-WL-S-BC	49	Yadkin	3040101	Wilkes				5,500	9.2	5
Cato	YD-105-MK-S-CA	55	Yadkin	3040105	Mecklenburg				2,200	5.0	5
Warrior Creek	YD-101-WL-S-WC	13	Yadkin	3040101	Wilkes				8,500	6.8	5
Purlear Creek	YD-101-WL-SW-PC	52	Yadkin	3040101	Wilkes	2	2		17,000	31.0	5
Silas Creek	YD-101-FS-S-SP	9	Yadkin	3040101	Forsyth				4,500	5.0	5
Brushy Fork	YD-101-FS-S-BF	10	Yadkin	3040101	Forsyth				5,000	6.9	4
Purlear Creek (II)	YD-101-WL-SW-PC(II)	53	Yadkin	3040101	Wilkes				4,500	10.3	4
Hall Branch	YD-101-RD-SW-HB	64	Yadkin	3040201	Richmond	5			2,000	4.5	3
		Yadkin Total				**7**	**2**	**0**	**62,790**	**107.4**	
			Compensatory Mitigation		**Total**	**304.9**	**103**	**132**	**219,112**	**335.0**	
					Total	**710.4**	**103**	**132**	**219,112**	**354.0**	

Project Type: R/C -- Restoration/Creation; E -- Enhancement; P -- Preservation

* Project status: 1. Restoration site assessment; 2. Site acquisition phase; 3. Initial design; 4. Design phase; 5.Construction phase; 6. Post-construction monitoring

Figure 1-3 NCWRP Project Sites



Continued from page 6

non-profit conservation groups and others to identify and implement restoration projects. Twenty-six projects are in the land-acquisition phase and will result in the restoration, enhancement and preservation of 268 acres of wetlands, 85,950 linear feet of stream and 186.75 acres of riparian buffer (Table 1-2). Negotiations with landowners and/or property acquisition are underway for these projects with anticipated construction dates late in FY 03-04 or early FY 04-05.

To afford an opportunity for private mitigation providers to provide fully restored sites to the NCWRP, a Request for Proposals to restore 150 acres of riparian buffer in the Neuse River basin was issued in May 2002. Four contracts were awarded for a total of 151 acres of riparian buffer restoration. Requests for Proposals for wetland and stream restoration were issued in June 2002. Four contracts were awarded and will result in the restoration of 42 acres of wetlands, 12,950 linear feet of streams and 29.8 acres of riparian buffer once complete (Table 1-3).

Table 1-2 NCWRP Projects in Acquisition Phase

Project	River Basin	Cataloging Unit	County	Stream (Linear Feet)	Wetland Restoration/ Preservation (Acres)	Riparian Buffer (Acres)
Montgomery Tract	Cape Fear	3030002	Rockingham		250	
Torrence Creek	Catawba	3050101	Mecklenburg	10,000	3	23
Lower Creek	Catawba	3050101	Caldwell	5,000		11
Hackers Branch	Catawba	3050103	Mecklenburg	1,800		3
Davie Park	Catawba	3050103	Mecklenburg	1,500		2
Coulwood Branch	Catawba	3050103	Mecklenburg	2,000		4
Little Sugar/Park Road	Catawba	3050103	Mecklenburg	5,000		9
Little Sugar/Downtown	Catawba	3050103	Mecklenburg	3,500		8
Caldwell Station Creek	Catawba	3050103	Mecklenburg	2,000	12	4
Six Mile Tributary	Catawba	3050103	Union	3,900	3	9
Trent Cove Branch	Hiwassee	6020002	Clay	3,900		9
Palms Apartments	Neuse	3020201	Wake	2,200		5
Cheviot Hills	Neuse	3020201	Wake	3,000		6
Paschal Golf Course	Neuse	3020201	Wake	2,850		6
Northgate Park	Neuse	3020201	Durham	3,000		6
Umstead Park	Neuse	3020201	Wake			2
Ocracoke	Tar-Pamlico	3020105	Hyde			0.75
Mills Creek	Yadkin	3040101	Forsyth	3,000		6
Ararat River	Yadkin	3040101	Surry	2,500		5
Naked Creek	Yadkin	3040101	Wilkes	5,500		12
Big Warrior Creek (II)	Yadkin	3040101	Wilkes	7,000		16
Little Warrior	Yadkin	3040101	Wilkes	6,000		13
Toby Creek	Yadkin	3040105	Mecklenburg	1,400		3
Afton Run	Yadkin	3040105	Cabarrus	1,500		3
Ramah Creek	Yadkin	3040105	Mecklenburg	5,000		11
Dye Branch	Yadkin	3040105	Iredell	4,400		10
Total				**85,950**	**268**	**186.75**

Table 1-3 Request for Proposal Projects

Project Name -- Company	River Basin	Cataloging Unit	County	Stream (Linear Feet)	Wetland: Restoration/ Preservation (Acres)	Riparian Buffer (Acres)
Hargett/Tucker Farm -- EBX	Neuse	N/A	Jones			17.5
Moye Farm -- Greene Environmental	Neuse	N/A	Greene			37.1
McCotter Raines Farm II -- Land Management	Neuse	N/A	Jones			24.4
Casey Dairy -- Restoration Systems	Neuse	N/A	Wayne			72
FCWR03 -- KCI	Tar-Pamlico	3020101	Franklin		30	
Haw River -- Restoration Systems	Cape Fear	3030002	Guilford		12	
Four Mile Creek -- Spaulding & Norris	Catawba	3050103	Mecklenburg	2,950		6.8
Zack's Fork Creek -- Spaulding & Norris	Catawba	3050101	Caldwell	3,900		9
Elk Shoals Creek -- Restoration Systems	Catawba	3050101	Catawba	6,100		14
Total				**12,950**	**42**	**180.8**

Ecosystem Enhancement Program

A new program that will combine the mitigation resources of the NCWRP and the NCDOT is being implemented. Although the Ecosystem Enhancement Program (EEP) was formally established in July 2003, significant work on program development occurred during FY 03. While NCWRP will be greatly influenced by this new initiative, the main components of NCWRP, including watershed planning, the in-lieu fee program and high-quality restoration projects, will be maintained.

Within the DENR, the EEP will provide high-quality compensatory mitigation for the NCDOT as well as other development impacts statewide. These needs will be met in advance of impacts, will provide functional replacement of impacts and will be addressed through a watershed approach.

A Memorandum of Agreement (MOA) regarding EEP between the partnering agencies [NCDENR, NCDOT and the U.S. Army Corps of Engineers (COE)] was signed into effect on July 22, 2003. Key provisions of the MOA include:

• Executing the requirements placed on the DENR by the enabling legislation for NCWRP (NCGS 143-214.8, et seq.).

• Enhancing the natural resources of North Carolina by addressing watershed needs.

• Fully satisfying compensatory mitigation requirements for authorized impacts on a programmatic, watershed-level basis.

• Providing in-ground, functioning compensatory mitigation for authorized impacts in advance of the actual impacts.

• Satisfying the compensatory wetland, stream and buffer mitigation needs of the NCDOT transportation program.

• Providing a means for organizing, steering, funding and implementing ecosystem enhancement efforts in the state.

The Ecosystem Enhancement Program

Purpose

The purpose of the Ecosystem Enhancement Program (EEP) is to provide a comprehensive, natural resource enhancement program that identifies ecosystem needs at the local watershed level and preserves, enhances and restores ecological functions within the target watersheds while addressing impacts from anticipated N.C. Department of Transportation transportation projects and other development.

Mission

The EEP mission is to restore, enhance, preserve and protect the functions associated with wetlands, streams and riparian areas including, but not limited to, those necessary for the restoration, maintenance and protection of water quality and riparian habitats throughout North Carolina.

Section 2 — Compensatory Mitigation Requirements

One of the functions of the NCWRP is to provide a compensatory mitigation option to permit applicants throughout North Carolina (NCGS 143-214.9). The option to pay a fee to the NCWRP to satisfy compensatory mitigation requirements of Section 404 permits and 401 Water Quality Certifications has been available since November 1998. The NCWRP also accepts payments for riparian buffer mitigation requirements in the Neuse, Tar-Pamlico, Catawba and Cape Fear river basins and nitrogen offset payments in the Neuse River basin. This section summarizes the accepted payments and the progress made in implementing projects to meet these obligations. [Please refer to Appendix A of this report and the 1999 NCWRP Annual Report for additional information concerning the Memorandum of Agreement between the COE and the NCWRP.]

Section 404/401 Water Quality Certification Mitigation Requirements

The compensatory mitigation requirements for 65 permits allowed by Section 404 or 401 certifications were accepted during FY 02-03. The mitigation requirements of these permits/certifications total 18,968 linear feet of streams and 46.49 acres of wetlands (Table 2.1). Since 1998, the compensatory mitigation requirements of 308 Section 404 permits and 401 Water Quality Certifications have been accepted. The cumulative mitigation requirements accepted by the NCWRP total 238,005 linear feet of streams and 304.47 acres of wetlands in 13 of the state's 17 river basins.

Table 2-1 Compensatory Mitigation Requirements Accepted NCWRP by River Basin

River Basin	Mitigation Requirements Accepted Fiscal Year 2002-2003		Cumulative mitigation requirements accepted since November 1998	
	Stream mitigation (feet)	Wetlands Mitigation (acres)	Stream mitigation (feet)	Wetlands Mitigation (acres)
Broad	0	0	800	0
Cape Fear	2,223	13.85	63,272	123.76
Catawba	1,919	1.14	73,396	21.85
Chowan	0	0	0	0
French Broad	2,808	2.25	9,306	2.39
Hiwassee	0	0	0	0
Little Tennessee	0	0	0	0
Lumber	0	2.66	0	7.10
Neuse	10,706	7.17	40,634	61.15
New	0	0.48	1,780	1.68
Pasquotank	0	0	1,047	9.32
Roanoke	0	0.80	3,676	9.52
Savannah	0	0	0	0
Tar-Pamlico	0	0.62	1,808	34.42
Watauga	0	0	0	0
White Oak	0	15.8	0	20.81
Yadkin	1,212	1.72	42,286	12.47
Totals	**18,868**	**46.49**	**238,005**	**304.47**

Riparian Buffer Mitigation

The NCWRP accepted 28 riparian buffer mitigation impacts for FY 02-03. These payments require the restoration of 103.22 acres of buffer in the Neuse River basin and 1.45 acres of buffer restoration in the Tar-Pamlico River basin, for a total of 104.67 acres. Since 1999 (effective date of the Riparian Area Buffer Rules for the Neuse River basin), the buffer mitigation requirements of 77 projects have been accepted by the NCWRP. Approximately 90 percent of these payments are for impacts within the Neuse River basin and 10 percent of the payments are for impacts within the Tar-Pamlico River basin. No payments have been received for buffer impacts in the Catawba River basin or the Randleman Water Supply Watershed. Cumulative riparian buffer mitigation requirements in the Neuse and Tar-Pamlico river basins are shown in Table 2-2.

Nitrogen Offset Payments in the Neuse River Basin

As required by *Nutrient Sensitive Waters Management Strategy: Basinwide Stormwater Requirements* (15A NCAC 2B .0235), designated local governments within the Neuse River basin are required to implement a model plan. The plan is to address nitrogen reductions for both existing and new development within their jurisdictions. Developers have the option of partially offsetting their nitrogen loads through payments to the NCWRP (15A NCAC 2B .0240).

A total of 236 nitrogen-offset payments were received during FY 02-03 (Appendix D, Table D-2). These payments require the implementation of projects that will provide 3,700 pounds of nitrogen reduction per year over a 30-year period within the Neuse River basin. Payments accepted during FY 00-01 required the removal of 66.77 pounds of nitrogen per year over a 30-year period. For payments accepted in FY 01-02, the required nitrogen removal per year over a 30-year period is 2,861.04 pounds. Cumulatively, the required nitrogen removal per year is 6,627.81 pounds. The NCWRP is presently working with the local governments affected by the rule to identify proposals for projects that will remove the required pounds of nitrogen. If the proposals are accepted by the NCWRP, the project will be funded from the payments received by the NCWRP. One project has been approved for funding by the NCWRP, and proposals for three projects are being prepared for approval. The goal of the NCWRP is to fund projects that cumulatively will remove 6,627.81 pounds of nitrogen per year in the Neuse River basin over a 30-year period.

Table 2-2 Riparian Buffer Compensatory Mitigation Requirements Accepted by NCWRP

River Basin/ Watershed	Mitigation requirements accepted Fiscal Year 2002-2003 (acres)	Cumulative mitigation requirements accepted since June 1999 (acres)
Neuse	103.219	175.61
Tar-Pamlico	1.45	1.64
Catawba	0	0
Randleman Water Supply Watershed	0	0
Total	**104.669**	**177.25**

Progress in Meeting Compensatory Mitigation Requirements For Fiscal Year 02-03

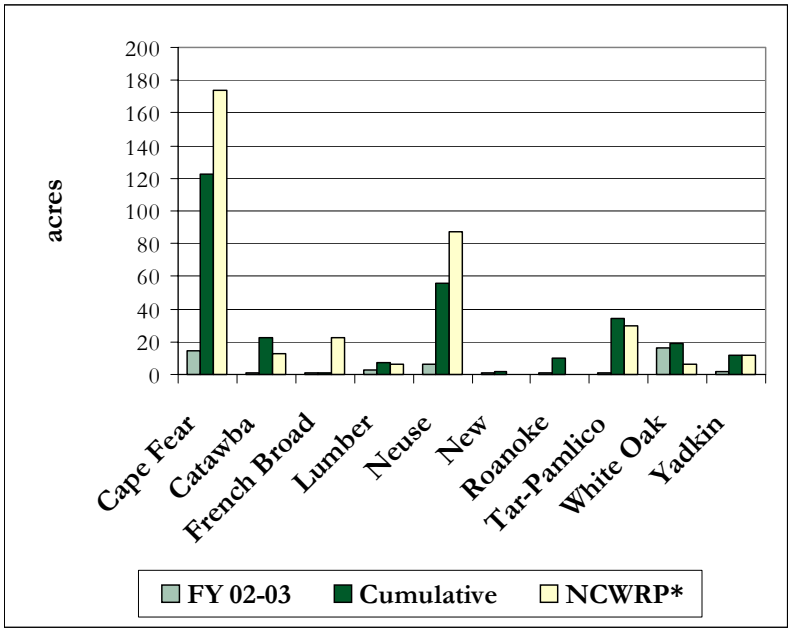
The NCWRP accepted a total of 65 Section 404 permits and 401 Water Quality Certifications during FY 02-03. Eighty-nine percent of the total Section 404 permits and 401 Water Quality Certifications have projects where the property has been acquired (and protected in perpetuity), and the project is either in design, construction or a monitoring phase. There are 20 Section 404 permits and eight 401 Water Quality Certifications with mitigation due by June 30, 2003 that are not covered by the current list of NCWRP project assets. Permit compliance decreased by 1 percent for Section 404 permits and 2 percent for 401 Water Quality Certifications from the previous fiscal year. The primary reason for the slight decrease of compliance with the increased amount of projects was due to the schedule of when the mitigation accepted was due. Seventy-two percent of the total stream mitigation and 67 percent of the total wetland mitigation that the NCWRP had accepted since the program's inception came due in the first half of FY 02-03.

Wetland Mitigation Requirements

The NCWRP has accepted wetland mitigation in 10 different river basins. On a statewide basis, the amount of NCWRP project assets for wetland restoration (304.9 acres) just exceeds the assumed mitigation requirements (304.47 acres). The NCWRP currently meets or exceeds the wetland mitigation accepted in five of those river basins (Figure 2-1). Twenty-three wetland restoration and enhancement projects have been initiated that will restore 304.9 acres of wetlands (Table 1-1). These projects will meet the compensatory mitigation requirements of 83 percent of the permits due for implementation by the NCWRP through the end of FY 02-03. Although the restoration acreage may exceed the mitigation required on a river basin scale, when examined on a river basin cataloging unit (CU) basis as required in the COE Memorandum of Understanding (Appendix A) the mitigation requirements in some CUs have not been totally met.

Additional projects that will restore 45.66 acres of wetlands are needed to meet the end of FY 02-03 outstanding mitigation needs. These impacts are located in the Cape Fear, Catawba, New, Roanoke, Tar Pamlico and Yadkin

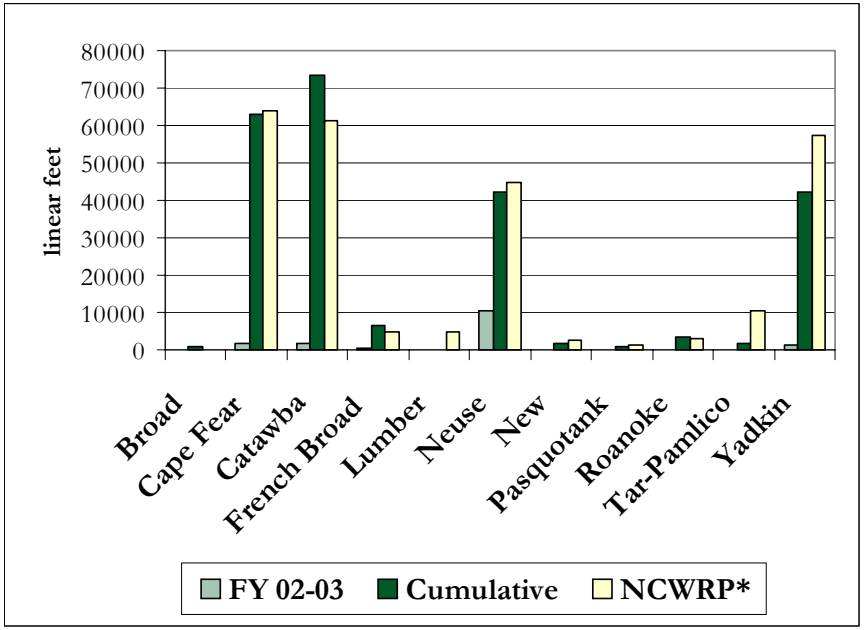
Figure 2-1 Progress in Meeting Compensatory Mitigation Requirements by River Basin for Wetlands



** NCWRP Project Assets*

river basins. These projects are needed to meet the compensatory mitigation requirements of nineteen* 404 permits and four 401 Water Quality Certifications.

Figure 2-2 Progress in Meeting Compensatory Mitigation Requirements by River Basin for Streams



** NCWRP Project Assets*

The permit needs by river basin for wetland mitigation requirements are:

- Cape Fear: four 404 permits (10.22 acres).
- Catawba: twelve 404 permits, one 401 certification (16.81 acres).
- New: one 404 permit (1.2 acres).
- Roanoke: two 404 permits (8.72 acres).
- Tar-Pamlico: one 401 certification (7.04 acres).
- Yadkin: two 401 certifications (1.67 acres).

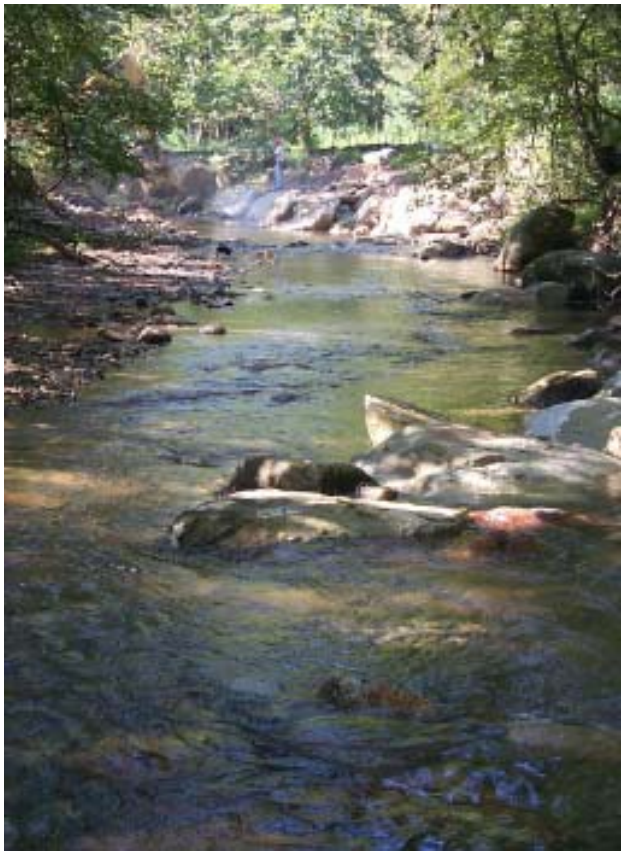
Stream Mitigation Requirements

The NCWRP has accepted stream mitigation impacts in 11 different river basins. NCWRP projects approximate or exceed the mitigation accepted for eight of those river basins (Figure 2-2). Fifty-eight projects have been implemented that will restore 219,112 linear feet of streams. These projects will meet the compensatory mitigation requirements of 88 percent of permits assumed by the NCWRP through the end of FY 02-03 (Table 1-1). Additional projects that will restore 34,603 linear feet of streams are needed in the Broad, Cape Fear, Catawba, Roanoke and Tar Pamlico river basins to meet specific permit requirements of five* 404 permits and four 401 Water Quality Certifications.

The permit needs by river basin for stream mitigation requirements are:

- Broad: one 401 certification (800 linear feet).
- Cape Fear: two 404 permits, one 401 certifications (14,080 linear feet).
- Catawba: two 404 permits (18,298 linear feet).
- Roanoke: one 404 permit (770 linear feet).
- Tar-Pamlico: two 401 certification (655 linear feet).

** Note: In the previous two sections, four 404 permits have both stream and wetland mitigation requirements.*



Stone Mountain

Permit compliance decreased by 5 percent for streams between FY 01-02 and FY 02-03. As stated earlier, the primary reason for the decrease in compliance was the schedule of when the mitigation accepted was due.

Riparian Buffer Mitigation Requirements

The NCWRP has accepted 77 impacts for buffer restoration since 1998. In FY 02-03, 29 buffer impacts were accepted. The acreage for the projects accepted is 103.75 acres, with 102.19 acres in the Neuse River basin and 1.56 acres in the Tar-Pamlico River basin. The NCWRP has six riparian buffer restoration sites as assets to date. Four of these sites are full delivery projects, and two are NCWRP projects.

The NCWRP currently has 177.7 acres of riparian buffer assets in the Neuse River basin. To date the Riparian Buffer Mitigation Fund has been paid for 175.61 acres of Neuse buffer mitigation. A total of 2.04 acres of Neuse buffer mitigation in Carteret, Craven and Pamlico counties have not been debited from the NCWRP buffer assets because these impacts are downstream of the NCWRP restoration project assets. The NCWRP will be requesting full delivery proposals in Craven and Pamlico counties.

Full delivery projects

A designer or consultant delivers a restored site (including property acquisition, design, construction and monitoring) and is paid based on a low-bid per acre or linear foot cost

The NCWRP has accepted eight riparian buffer impacts in the Tar Pamlico River basin. These riparian buffer mitigation requirements total 1.64 acres. The NCWRP has a buffer restoration project in design on Ocracoke Island that will have an asset of 0.75 acres. There is an option being considered in Beaufort County for an additional one acre of riparian buffer restoration.

Section 3 – Trust Funds

Wetlands Trust Fund

The Wetlands Trust Fund was established by the N.C. General Assembly as a repository for funds to restore, create, enhance and preserve wetlands and riparian areas throughout the state. Three accounts have been established within the Wetlands Trust Fund: Account 2980 – Wetland Restoration; Account 2981 – Compensatory Mitigation; and Account 2982 – Riparian Buffer.

Account 2980 is the repository for appropriations received from the General Assembly. This account is used to implement restoration projects to compensate for cumulative losses of wetlands and riparian areas associated with projects that are below the threshold that triggers the compensatory mitigation requirement.

Account 2981 is the repository for payments made to the NCWRP to satisfy the compensatory mitigation requirements of Section 404 permits, 401 Water Quality Certifications and nitrogen offset payments. Payments to this account and the interest earned are used to implement projects designed to meet the compensatory mitigation requirements of projects accepted by the NCWRP and to implement projects to reduce nitrogen loading within the Neuse River basin.

Account 2982 is the repository for payments to satisfy the buffer mitigation requirements for permitted impacts to riparian buffers in the Neuse, Tar-Pamlico and Catawba river basins. Payments to this account and the interest earned are used to implement riparian buffer restoration projects within these river basins.

During FY 02-03, the NCWRP received 79 payments for compensatory mitigation associated with Section 404/401 permits and permitted riparian buffer impacts. Fifty-six of the payments (71 percent) were received from the private sector, nine payments (11 percent) were received from NCDOT and 14 payments (18 percent) were received from other state, federal and local government agencies. NCWRP received 236 nitrogen offset payments.

Of the payments received, 24 percent were for stream restoration and 11 percent for wetland restoration associated with Section 404/401 permits. Riparian buffer payments comprised 50 percent, with the remaining 15 percent for nitrogen offset payments. Appendix D contains a complete listing of payments.

Income/Expenditures

Account 2980 – Wetlands Restoration Fund

The beginning balance of Account 2980 in FY 02-03 was $3,261,917. A total of $105,559 was deposited into this account during the fiscal year. Income received during the fiscal year was derived from the interest earned on this account.

Hammocks Beach Restoration Site

Total expenditures for FY 02-03 were $1,339,980. These funds were expended for activities associated with the restoration, enhancement or preservation of wetland, streams and riparian areas. Of the remaining balance, $1,966,001 is encumbered for activities associated with the restoration and enhancement of wetlands, streams and riparian areas. At the end of FY 02-03, the unencumbered balance of Account 2980 was $12,456 (Table 3-1).

Account 2981 – Compensatory Mitigation Fund
The beginning balance of Account 2981 in FY 02-03 was $42,595,995. A total of $8,399,744 was deposited into this account during the fiscal year. An additional payment of $2.5 million was received from NCDOT for local watershed planning initiatives. Compensatory mitigation deposits were 56 percent less than last year. The economic downturn probably contributed to the reduction in payments from both the private sector and government agencies. NCDOT payments were possibly reduced due to anticipation of alternative mitigation available through the Ecosystem Enhancement Program.

Income received during the fiscal year was derived from payments to satisfy the compensatory mitigation requirements of Section 404 permits and 401 Water Quality Certifications, nitrogen offset payments as required by 15A NCAC 2B .0242 and the interest earned on the funds within this account. Total expenditures for FY 02-03 were $11,381,930. These funds were expended for activities associated with the restoration, enhancement or preservation of wetland, streams and riparian areas. Of the remaining balance, $17,235,294 was encumbered. At the end of FY 02-03, the unencumbered balance of Account 2981 was $23,217,093 (Table 3-2).

The unencumbered balance is reserved for the implementation of projects to meet the compensatory mitigation requirements of Section 404 permits and 401 Water Quality Certifications accepted by the NCWRP, watershed assessments and nitrogen reduction projects. These projects will restore and enhance approximately 48,400 linear feet of streams, 55 acres of wetlands and 100 acres of riparian buffers. Approximately 6,700 pounds of nitrogen per year will be removed through the implementation of nitrogen reduction projects in the Neuse River basin at a cost of $2.2 million. Of the remaining unencumbered funds, $4.9 million is reserved for the development of Local Watershed Plans as required by the Memorandum of Agreement with the NCDOT. (Please refer to Section 2 and Appendix D for additional informa-

Table 3-1 Wetlands Trust Fund - Wetlands Restoration

Account 2980		
Balance on 7/1/02		*$ 3,261,917*
Revenue (FY 02-03)		$ 105,559
Receipts	0	
Interest	$ 105,559	
Expenditures		$ (1,339,980)
Site identification	0	
Site acquisition	0	
Design/construction management	$ (1,198,802)	
Construction	0	
Monitoring	$ (116,273)	
Maintenance/management	$ (24,905)	
Balance as of 6/30/03		*$ 1,978,457*
Current contractual encumbrances		$ (1,966,001)
Balance of unencumbered funds		*$ 12,456*

Table 3-2 Wetlands Trust Fund - Compensatory Mitigation

Account 2981		
Balance on 7/1/02		*$ 42,595,995*
Revenue (FY 02-03)		$ 8,399,744
Compensatory mitigation payments	$ 3,576,485	
Nitrogen offset payments	$ 1,220,999	
DOT/MOU	$ 2,500,000	
Interest	$ 1,940,840	
Expenditures (FY 02-03)		$ (11,381,930)
Site identification (including LWP)	$ (1,638,418)	
Site acquisition	$ (1,130,862)	
Project design/construction management	$ 4,514,826	
Construction	$ (3,584,255)	
Monitoring	$ (11,069)	
Maintenance/management	$ (15,414)	
Administration	$ (487,056)	
Refunds	$ (6,619)	
Balance as of 6/30/02		*$ 40,452,387*
Current contractual encumbrances		$ (17,235,294)
Balance of unencumbered funds		*$ 23,217,093*

Table 3-3 Wetlands Trust Fund - Riparian Buffer Restoration

Account 2982		
Balance as of 7/1/02		*$ 3,309,390*
Revenue (FY 02-03)		$ 5,325,025
Compensatory mitigation payments	$ 4,251,742	
Interest	$ 234,705	
Expenditures		$ (2,282,248)
Balance as of 6/30/02		*$ 5,513,590*
Current contractual encumbrances		$ (1,003,299)
Balance of unencumbered funds		*$ 4,510,291*

tion concerning compensatory mitigation requirements assumed by the NCWRP. Information concerning the Memorandum of Agreement with the NCDOT can be found in Appendix B.)

Account 2982– Riparian Buffer Fund

The beginning balance of Account 2982 in FY 02-03 was $3,309,390. During the fiscal year, $5,325,025 was deposited into this account. Income received during this fiscal year was derived from payments for the compensatory mitigation requirements associated with permitted impacts to buffers and the interest earned on the funds within the account. Four new contracts were encumbered, totaling $3,285,547. During FY 02-03, $2,282,248 was expended from this account for four full-delivery restoration projects. At the end of FY 02-03, the unencumbered balance of Account 2982 was $4,510,291. These funds are reserved for buffer restoration in the Neuse and Tar-Pamlico River basins (Table 3-3).

Summary

During FY 02 – 03, the pace of expenditures increased significantly (Figure 3-1). This increase is associated with expenditures for design and implementation of restoration projects and the initiation of several comprehensive Local Watershed Plans. Although the planning process resulted in some delay in the implementation of projects, the benefits associated with the implementation of high quality projects identified through the watershed planning process will be long-term. In addition to expenditures, as of June 30, 2003, more than $20 million remained encumbered in 102 active contracts in the Wetlands Trust Fund accounts (Table 3-4). Of this total, 63 new contractual agreements totaling $15,316,778 were encumbered during FY 02-03. These contracts will provide local watershed planning, site identification, design, construction, construction management and monitoring of the restored sites. The pace of expenditures will continue to increase as the planning process matures, and the NCWRP increases the efficiency of its implementation processes.

Figure 3-1 NCWRP Expenditures from Accounts 2980 and 2981 since 1996

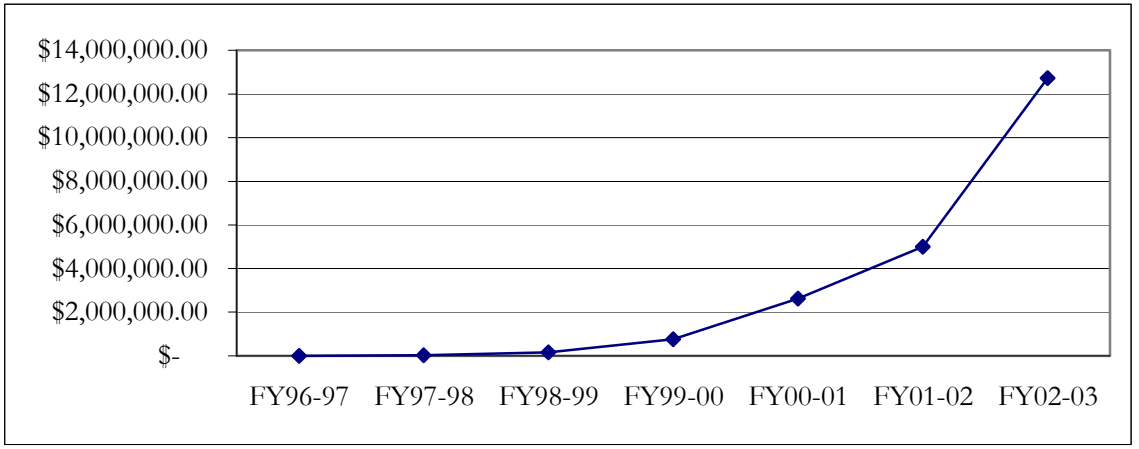
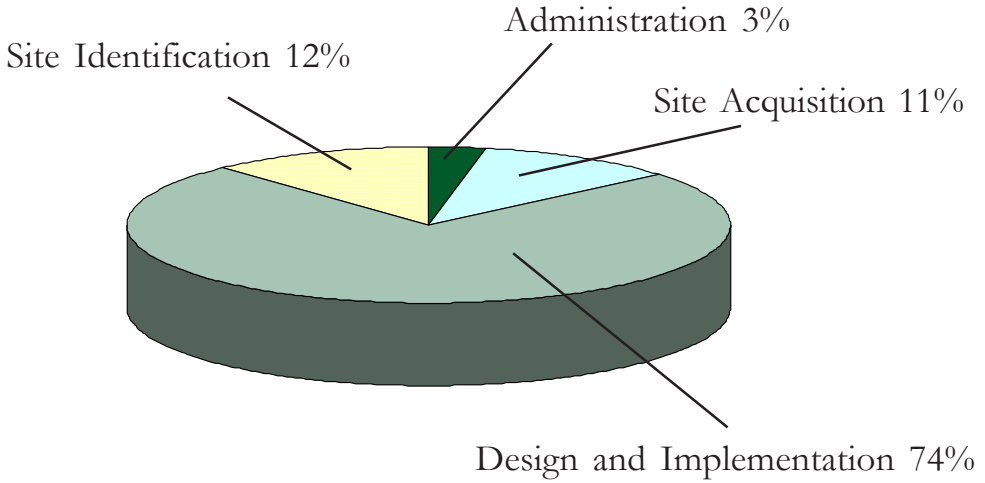


Figure 3-2 Project Expenditures by Major Category from Accounts 2980, 2981 and 2982



Based on total expenditures of $ 15,004,157

Table 3-4 Contractual Encumbrances for the Wetlands Trust Fund Accounts 2980, 2981 and 2982

Contractor	Encumbrance Remaining	Contractor	Encumbrance Remaining
A & D Environmental	$444,705.00	Hunter Construction Group, Inc	$222,155.60
Arcadis	$200,020.73	KCI Associates of NC, Inc.	$710,227.55
Barry Rosch	$7,615.00	Kimley Horn	$254,991.72
Becky L. Ward Consulting	$17,404.08	Land Management Group, Inc.	$92,720.00
Biohabitats, Inc.	$10,208.50	Law Engineering	$337,814.30
Blue Land Water Infrastructure	$452,960.25	L-J Inc.	$804,044.94
Buck Engineering	$528,897.99	Natural Areas Ecosystem	$54,217.07
Camp Dresser & McKee	$180,854.63	Natural Resources Conservation Service	$833,054.06
Cape Fear River Assembly	$54,319.00	NCSU Sponsored Programs	$1,182,205.30
CH2MHill	$198,479.38	North State Environmental, Inc.	$574,675.30
City of Hendersonville	$97,263.00	Polovick Construction Co., Inc.	$200.00
City of Jacksonville	$192,072.24	Restoration Systems	$2,872,130.00
City of Wilmington	$20,000.00	Republic Building Services	$5,542.00
Decision Support Professionals	$189,880.05	SEI Environmental	$321,876.69
Dewberry and Davis	$70,858.80	Shamrock Environmental	$2,019,237.08
Division of Soil and Water Conservation Service	$1,155,000.00	Soil and Environmental Company	$489,933.25
Division of Water Quality Lab	$87,708.00	Soil and Water Conservation Service	$421,500.00
Division of Water Quality Sampling	$938,385.00	Spaulding and Norris	$1,190,220.00
Dixie Grading Company	$178,347.20	Stantec Consulting	$174,935.02
DOA-State Property Office	$210,598.45	Sungate Design Group, PA	$167,100.00
Earth Tech	$716,689.32	Tennesee Valley Authority	$4,000.00
East Carolina University	$42,241.00	Tetra Tech	$321,863.03
EBX-Neuse, I LLC	$264,600.00	Treefrog Resources	$7,000.00
Ecologic	$84,423.00	URS Corporation, North Carolina	$162,069.89
Ecoscience	$264,822.78	West Contracting, Inc.	$270,038.49
Green Environmental Services	$223,249.25	Wilkes Soil and Water	$188,723.95
HDR Engineering	$244,160.62		

Section 4 -- Analysis of Restoration Costs

The NCWRP evaluates the cost of restoration projects on an annual basis. It compares this cost to the Schedule of Fees (NCGS 143-214.13) and the cost of restoration projects implemented by the private mitigation banking industry. (Please refer to Section 5 of the 2001 NCWRP Annual Report for information on the methods used in this analysis.)

Stream Restoration Projects

The construction of 17 stream restoration projects was completed by the end of FY 02-03. Eight of these projects are located in urban areas and nine are in rural areas. These projects restored 64,101 linear feet of stream at an overall average cost per linear foot of $129.31. As shown on Tables 4.1 and 4.2, there is a significant difference in the costs of urban and rural projects. The average per linear foot cost of urban projects is $168.77 while the average per linear foot cost of rural projects is $113.53.

The higher costs of urban projects result from a number of factors. Most urban stream settings have numerous constraints that must be addressed during the design and construction of projects, including roads, sewer lines, water lines power lines, fiber optic cables and gas lines. These constraints must be avoided or relocated during a stream restoration project. They also influence the design and maintenance of the restoration project, further increasing project cost. Other common constraints in urban situations include numerous road crossings, protect-

Table 4-1 Stream Restoration Costs for Urban Projects

Urban Project	Hominy Swamp	Price Park	Smith/Austin	Kentwood Park	Chavis Park	Richland Creek	Clear Creek	Sandy Creek
Site identification	$2,450	$1,690	$4,750	$1,800	$2,250	$0	$1,080	$1,000
Site acquisition	$2,500	$62,526	$300,368	$12,711	$0	$0	$3,935	$66,718
Project design	$123,903	$86,380	$240,717	$93,559	$72,461	$17,533	$64,320	$26,194
Construction management	$12,600	$21,666	$136,323	$38,334	$30,329	$35,302	$44,978	$10,000
Site restoration	$322,618	$154,789	$446,602	$94,862	$281,703	$57,942	$199,436	$100,517
Monitoring*	$51,000	$74,035	$112,380	$61,604	$57,060	$7,500	$49,320	1,040
Long-term management	$3,000	$3,000	$3,000	$3,000	$3,000	$1,000	$3,000	$1,000
Length (ft)	2,232	1,710	9,500	1,800	2,500	850	1,300	1,500
Total cost	$518,071	$403,786	$1,244,141	$305,870	$446,723	$119,277	$366,069	$206,469
Cost/linear foot	**$232**	**$227**	**$131**	**$170**	**$179**	**$140**	**$282**	**$138**
Project status	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring

** Projected Cost for five-year period*

ing city park equipment and ensuring the compatibility of the project with surrounding buildings and structures.

The cost of restoration in urban areas is also increased significantly. Suitable stream reaches available for restoration tend to be shorter than those in rural areas due to higher density of land ownership and smaller parcel size. Shorter restoration projects decrease the "economies of scale" for urban projects since the initial mobilization of equipment is one of the larger costs in constructing stream restoration projects. The cost of construction staging and delivering equipment becomes more economical as project length increases.

Wetland Restoration Projects

Seven wetland restoration projects were constructed by the end of FY 02-03. Three involved the restoration of coastal wetlands; three involved the restoration/enhancement of riparian wetlands; and one project restored non-riparian wetlands. Six of these projects were located in the coastal plain physiographic region and one in the Piedmont region. They resulted in the restoration and enhancement of 364.6 acres of wetlands.

Table 4-2 Stream Restoration Costs for Rural Projects

Rural Project	Payne Dairy	Stone Mountain	Brush Creek	County Line Creek	Lyle Creek	Brown Branch	Beaver Creek	Bear Swamp	Suck Creek
Site identification	$3,700	$5,200	$2,200	$1,750	$1,150	$3,500	$2,200	$750	$1,825
Site acquisition	$86,965	$0	$864	$30,414	$35,166	$0	$2,300	$6,902	$2,738
Project design	$178,357	$242.78	$109,690	$97,663	$72,522	$104,164	$90,858	$44,300	$80,688
Construction management	$64,234	$76,708	$58,020	$41,354	$36,679	$67,052	$50,447	$17,440	$28,247
Site restoration	$413,221	$656,230	$228,280	$196,098	$88,045	$261,521	$265,038	$87,537	$244,805
Monitoring*	$73,732	$73,000	$43,900	$56,025	$52,758	$64,033	$59,137	$58,098	$43,827
Long-term management	$9,500	$9,500	$5,250	$5,250	$5,250	$9,500	$9,500	$5,250	$5,250
Length (ft)	6,997	10,622	3,590	3,500	2,300	5,400	4,300	1,500	3,000
Total cost	$829,709	$1,063,419	$448,204	$428,554	$291,571	$509,770	$479,481	$220,277	$407,380
Cost/linear foot	**$119**	**$111**	**$125**	**$122**	**$127**	**$94**	**$111**	**$147**	**$136**
Project status	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring	Monitoring

** Projected Cost for five-year period*

Riparian Wetlands

The construction of three riparian wetland restoration projects was complete by the end of FY 02-03, resulting in the restoration and enhancement of 107.6 acres of wetlands (Table 4.3). The Jumping Run Creek project, located in an urban setting in Carteret County, had an average cost per acre of $25,085. The Howell Woods project, located in a rural area of Johnston County, involved the restoration/enhancement of riparian wetlands in the floodplain of the Neuse River. Wetland hydrology and vegetation was restored and enhanced at an average cost per acre of $13,188. The Sandy Creek Wetland Restoration site, located on an abandoned wastewater treatment facility in Durham, resulted in an average cost per acre of $43,569.

Table 4-3 Costs of Riparian Wetland Restoration

Project	Jumping Run Creek	Howell Woods	Sandy Creek
Site identification	$4,050	$5,695	$500
Site acquisition	$0.00	$252,157	$17,282
Project design	$16,125	$66,916	$20,000
Construction management	$12,500	$48,734	$8,425
Site Restoration	$66,000	$183,577	$59,000
Post monitoring*	$8,250	$56,064	$25,000
Long-term management*	$3,450	$6,700	$500
Restoration acres	4.4	47	3
Wetland type	Riparian (urban)	Riparian (rural)	Riparian (urban)
Total cost	$110,375	$619,843	$130,707
Cost/acre	**$25,085**	**$13,188**	**$43,569**
Project status	Monitoring	Monitoring	Monitoring

** Estimated costs*

Coastal Wetlands

The construction of three coastal wetland restoration projects was complete by the end of FY 01-02 resulting in the restoration of and enhancement of 4.11 acres of wetlands at an average cost of $101,148 per acre. (Please refer to Section 5 of the 2001 NCWRP Annual Report for additional information on these projects.)

Non-riparian wetlands

The NCWRP completed the first phase of the North River wetland restoration project located in Carteret County. Phase I is 250 acres of non-riparian wetland restoration; Phase II will encompass another 165 acres of restoration. Total cost for Phase I of the project was $1,187,253 resulting in a per acre cost of $4,749.

Conclusions

Two conclusions can be made from examining riparian wetland costs. First, riparian wetland restoration costs are higher than non-riparian wetland restoration because the complexity of the hydrology of a riparian wetland leads to increased design and monitoring costs. Second, on any restoration project, economies of scale govern the overall costs. As the project size increases, cost per acre decreases. Therefore, comparing the three riparian projects results in the Howell Woods site having the lowest cost per acre because of its much larger size.

Cost Analysis of Private Mitigation Bank Restoration Projects

The enabling legislation for the NCWRP requires an annual cost comparison on a per acre basis between the restoration costs of NCWRP and private mitigation banks. To obtain the data necessary to accomplish this task, a survey requesting restoration cost information is annually sent to the sponsor of each approved bank (Table 4.4). There were no responses received from this year's Private Mitigation Bank Survey, which was sent in early August 2003. (Please refer to the 2002 NCWRP Annual Report survey data.) During FY 99-00, responses were received from two sponsors, Triangle Group and EcoBank, representing four separate mitigation banks. The average per acre cost for non-riparian wetlands for these four banks was $9,665 (page 41, 2000 NCWRP Annual Report). During FY 01-02, only EcoBank responded with a cost of $8,675 per acre of non-riparian wetland restoration (page 4-3, 2002 NCWRP Annual Report).

As noted, the NCWRP completed a non-riparian wetland restoration project at $4,749 per acre on the North River.

Comparison of Restoration Costs with Schedule of Fees

The NC Wetlands Restoration Program utilizes the cost of its projects and the costs reported by the mitigation banking industry to determine actual costs of restoration compared to the Schedule of Fees (found at 15A NCAC 2R .0402). This comparison ensures that the schedule accurately reflects the cost of restoration.

Based on the results of the analysis of restoration costs conducted two years ago, rulemaking was initiated during FY 01-02 to increase the fee for stream restoration. A public hearing on the proposed increase was held in July 2002. This rule was approved, increasing stream restoration fees to $200 per linear foot beginning April 1, 2003.

Although the overall average on completed projects is $129.31, the NCWRP is seeing a trend of increased cost for stream restoration projects. Long-term maintenance, management and monitoring are projected costs and as these costs are incurred, the NCWRP is finding the average per foot costs are rising. In the first few years of a stream project and before vegetation has had a chance to help provide stability of streambanks, these projects are vulnerable to storms. Maintenance issues can also lead to additional costs. Moreover, the NCWRP is initiating more urban stream projects and the per-foot costs are higher.

Based on the comparison of actual costs for riparian wetlands, non-riparian wetlands and coastal wetlands with the Schedule of Fees, no adjustment to the Schedule of Fees for these categories is recommended at this time.

Barck Mill

Middle Cape Fear

Table 4-4 Approved Mitigation Banks in North Carolina

Mitigation Bank Name[1]	County	River Basin	Cataloging Unit	Restoration Type	Sponsor
Scuppernong River Corridor Mitigation Bank	Tyrrell	Pasquotank	3010205	Non-Riparian	Green Vest, LLC
Great Dismal Swamp Restoration Bank	Pasquotank, Perquimans	Pasquotank	3010205	Non-Riparian	Great Dismal Swamp Mitigation
Hidden Lake Mitigation Bank	Tyrrell	Pasquotank	3010205	Non-Riparian	Green Vest, LLC
Barra Farms Cape Fear Regional Mitigation Bank	Cumberland	Cape Fear	3030005	Non-Riparian, Stream	EcoBank, LLC
Greater Sandy Run Wetland Mitigation Bank	Onslow	White Oak	3030001	Non-Riparian	Camp LeJeune Marine Base
Flat Swamp Wetland Mitigation and Stream Restoration Bank	Craven	Neuse	3020202	Non-Riparian, Stream	Green Vest, LLC
NEU-CON Mitigation Bank	Lenoir, Jones, Greene	Neuse	03020202 03020203 03020204	Non-Riparian, Stream	Environmental Banc and Exchange, LLC
Fisher River Mitigation Bank	Surry	Yadkin	3040101	Riparian	American Wetlands
Bear Creek-Mill Branch	Wayne	Neuse	3020202	Riparian	Restoration Systems, LLC.
Deep Creek	Yadkin	Yadkin	3040101	Riparian, Stream	American Wetlands

[1]The mitigation banks included in this table have a mitigation banking instrument that has been signed by some or all of the federal and state review agencies

Green Vest, LLC
1001 Capability Dr. Suite 312
Raleigh, NC 27606
(919) 831-1234

EcoBank, LLC
1555 Howell Branch Rd.
Winter Park, FL 32789
(407) 629-6044

American Wetlands
11876 Sunrise Valley Dr. Suite 200
Reston, VA 20191

Great Dismal Mitigation Bank, LLC
Winthrop, Stimson, Putnam & Roberts
1133 Connecticut Ave. NW
Washington, DC 20036

Environmental Banc & Exchange, LLC
1119-M Whisperwood Court
Greensboro, NC 27104
(336) 851-5902

Restoration Systems, LLC.
1101 Haynes St. Suite 203
Raleigh, NC 27604
(919) 755-9490

Section 5 – Statewide Wetland and Stream Losses and Gains

DENR is one of the agencies responsible for protecting and restoring the functions and values of and streams across the state. The N.C. Wildlife Resources Commission, EPA, COE, U.S. Fish and Wildlife Service, National Marine Fisheries Association, local governments and countless non-profit organizations are all working to maintain and add to North Carolina's remaining inventory of wetlands and streams. Despite the collaborative efforts of these groups, there is still an annual net loss of streams in North Carolina and a net loss of wetlands in some river basins.

The COE, DWQ and the Division of Land Resources within DENR regulate construction activities near streams and wetlands. The intent of these regulatory programs is to minimize the impact of construction projects to these valuable resources and to ensure that unavoidable impacts are addressed through mitigation projects. DENR also funds restoration projects to help offset stream and wetland impacts through the NCWRP, the 319 Program, Clean Water Management Trust Fund and Division of Water Resources Grant Program.

This section presents a summary of information gathered by the NCWRP concerning statewide wetland and stream losses and gains that occurred in the state during FY 02-03. This information represents the activities of the DWQ as well as other agencies and programs working to protect and restore wetlands and streams across the state. Wetland, stream and buffer losses and gains are tracked through the Wetland/401 Unit of the DWQ and are presented below under the heading Regulatory Losses and Gains. Information about other programs is presented later in this section under the heading Non-Regulatory Gains.

Regulatory Losses and Gains

The information in this section is based on the 401 Water Quality Certification database maintained by DWQ's Wetland/401 Unit. This database tracks wetland and stream losses that are authorized through the issuance of a 401 Water Quality Certification. The issuance of a 401 Water Quality Certification by the DWQ is required before the US Army Corps of Engineers can issue a Section 404 Permit authorizing the fill or alteration of wetlands and/or streams. Although in the majority of cases the impacts authorized by the 401 Water Quality Certification are consistent with the impacts authorized by the Section 404 Permit, it should be noted that the amount of impact authorized by the Section 404 Permit may be less than that authorized by the 401 Water Quality Certification and, in some cases, a Section 404 Permit may never be issued. In addition, the authorized impacts may not occur during the same fiscal year and in some cases may never occur. The DWQ is increasing its efforts to monitor and track the impacts that actually occur during each fiscal year. Questions regarding regulatory wetlands losses and gains should be directed to Mr. John Dorney with the DWQ Wetland/401 Unit at (919) 733-9646.

Middle Cape Fear

In addition to the wetland and stream impacts tracked in the database, an unknown amount of permanent wetland and stream losses occurs. First, projects that affect less than one-third of an acre of wetlands or less than 150 linear feet of stream are not required to receive written confirmation from DWQ and, therefore, might not be reported. Second, the magnitude of unauthorized impacts to wetlands and streams is still being assessed. DWQ is working to resolve this issue.

Permitted Wetlands Impacts

During FY 02-03, DWQ issued Water Quality Certifications authorizing 297.4 acres of wetland impact. Table 5-1 summarizes the permitted wetland impacts that occurred throughout the state by river basin. The majority of these impacts occur in river basins that flow through the coastal plain.

Permitted Stream Impacts

During the FY 02-03, Water Quality Certifications were issued authorizing 191,708

Table 5-1 Losses and Gains for North Carolina Wetlands During FY 2002 - 2003

WETLANDS						
Basin	**Impacts < 1 ac**	**Impacts > 1 ac**	**Total Impacts**	**Mitigation**	**Gain or loss**	
Broad	0.3	0.0	0.3	0.0	-0.3	
Cape Fear	13.6	89.0	102.6	91.8	-10.8	
Catawba	4.9	1.5	6.4	0.0	-6.4	
Chowan	0.8	0.0	0.8	0.0	-0.8	
French Broad	1.0	1.1	2.1	1.9	-0.2	
Hiwassee	0.0	0.0	0.0	0.0	0.0	
Little Tennessee	0.2	0.0	0.2	0.0	-0.2	
Lumber	2.9	31.7	34.6	57.8	23.2	(+)
Neuse	16.4	49.7	66.1	91.9	25.8	(+)
New	0.7	0.0	0.7	0.6	-0.1	
Pasquotank	12.3	10.9	23.2	19.2	-4.0	
Roanoke	0.8	4.3	5.1	3.2	-1.9	
Savannah	0.0	0.0	0.0	0.0	0.0	
Tar-Pamlico	5.0	0.0	5.0	0.0	-5.0	
Watauga	0.0	0.0	0.0	0.0	0.0	
White Oak	3.2	9.5	12.7	18.9	6.2	(+)
Yadkin-Pee Dee	3.7	34.0	37.7	66.4	28.7	(+)
TOTALS:	**65.7**	**231.7**	**297.4**	**351.7**	**54.3**	**(+)**

linear feet of permanent stream impact (Table 5-2). The majority of these impacts occur in the piedmont and mountain regions of the state and in urban areas. The State of North Carolina does not require mitigation for impacts to intermittent streams, but impacts to these streams are reported. The reported loss of 63,664 linear feet of stream is partially attributable to intermittent streams.

Permitted Riparian Buffer Impacts in the Catawba, Neuse and Tar-Pamlico River Basins

The Riparian Buffer Rules are currently in effect for the Catawba, Neuse and Tar-Pamlico river basins. These rules apply to 50-foot wide riparian buffers directly adjacent to surface waters including intermittent and perennial streams, lakes, ponds and estuaries. Activities within riparian buffers are categorized as exempt, allowable, allowable with mitigation or prohibited. The Wetland/401 Unit regulates activities in riparian buffers and maintains the database of riparian buffer losses that are permitted through the issuance of an Authorization Certificate. During FY 02-03, 54.18 acres of buffer impact in the Neuse River basin and 2.27 acres in the Tar Pamlico River basin were authorized. There was 0.02 acre of riparian buffer impact in the Catawba River basin during the FY 02-03 (Table 5-3).

Compensatory Mitigation

The purpose of compensatory mitigation is to replace wetland and stream functions that are lost through permitted impacts to stream and wetlands.

DWQ issued sixty-three 401 Water Quality Certifications during FY 02-03 that required wetland or stream mitigation. Of those, 53 certifications were satisfied through payment to the NCWRP. Compensatory mitigation requirements for three of the certifications were satisfied through payment to private mitigation banks. The applicants conducted mitigation for 17 of the certifications. Some 401 certification requirements had mitigation satisfied through a combination of NCWRP, private mitigation banks and the applicant.

Table 5-2 Losses and Gains for North Carolina Streams During FY 2002 - 2003

STREAMS					
Basin	**Impacts <150 ft**	**Impacts >150 ft**	**Total Impacts**	**Mitigation**	**Gain or Loss**
Broad	788	628	1,416	255	-1,161
Cape Fear	6,115	33,421	39,536	31,648	-7,888
Catawba	5,696	31,574	37,270	17,364	-19,906
Chowan	0	0	0	0	0
French Broad	3,841	19,184	23,025	17,150	-5,875
Hiwassee	437	0	437	0	-437
Little Tennessee	1,972	4,427	6,399	4,602	-1,797
Lumber	981	7,600	8,581	7,600	-981
Neuse	8,428	18,233	26,661	21,438	-5,223
New	1,696	1,526	3,222	20	-3,202
Pasquotank	336	300	636	0	-636
Roanoke	1,303	4,950	6,253	1,050	-5,203
Savannah	408	0	408	0	-408
Tar-Pamlico	1,888	2,271	4,159	300	-3,859
Watauga	244	210	454	0	-454
White Oak	420	3,811	4,231	3,210	-421
Yadkin-Pee Dee	6,856	22,164	29,020	22,807	-6,213
TOTALS:	**41,409**	**150,299**	**191,708**	**127,444**	**-63,664**

Wetlands
During FY 02-03, 351.7 acres of wetland restoration and creation was required as compensatory mitigation through the issuance of 401 Water Quality Certifications (Table 5-1). The statewide compensatory mitigation requirements for wetlands exceeded authorized impacts by 54.3 acres. Twenty two percent (65.7 acres) of this total wetland impact is attributed to projects that impact less than one acre of wetland and, therefore, do not require compensatory mitigation as a condition of the 401 Water Quality Certification.

Streams
The compensatory mitigation requirements of the 401 Water Quality Certifications issued during FY 02-03 totaled 127,444 linear feet of stream (Table 5-2). The authorized stream impacts exceeded the compensatory mitigation requirements for stream restoration in all but one river basin. The authorized impacts statewide exceeded the compensatory mitigation requirements by 63,664 feet. This substantial difference between permitted stream impacts and compensatory mitigation requirements is attributable to two factors. First, stream impacts must exceed the minimum threshold of 150 linear feet before compensatory mitigation is required. Second, mitigation is only required for impacts to perennial streams. No mitigation was required for the loss of intermittent streams which are included in the total impacts.

The purpose of compensatory mitigation is to replace wetland and stream functions that are lost through permitted impacts to stream and wetlands.

Non-Regulatory Gains
In addition to restoration projects associated with compensatory mitigation requirements, numerous state, federal and local government agencies as well as non-profit organizations are involved in restoration activities. In order to determine the magnitude of these efforts and to provide a mechanism to share information on restoration efforts, the NCWRP conducted a survey to collect information concerning the amount of wetlands and streams that were restored, created, enhanced and preserved during the FY 02-03 (Appendix C, Table C-1). Based on the results of this survey, 35 acres of wetland restoration and 1,800 linear feet of stream restoration were completed during the FY 02-03. A listing of these projects, the organizations that received the survey and a copy of the survey are provided in Appendix C.

Table 5-3 Losses and Gains for North Carolina Buffers During FY 2002 - 2003

BUFFERS						
Basin	**Impacts < 1 ac**	**Impacts > 1 ac**	**Total Impacts**	**Mitigation**	**Gain or loss**	
Catawba	0.02	0	0.02	0	-0.02	
Neuse	12.28	41.9	54.18	70.71	16.53	(+)
Tar-Pamlico	2.27	0	2.27	0.22	-2.05	
TOTALS:	**14.57**	**41.9**	**56.47**	**70.93**	**14.46**	**(+)**

The NCWRP is committed to tracking stream and wetland restoration efforts that are conducted outside of regulatory requirements. The data for wetland and stream restoration presented in this section should be evaluated with the following caveat: The distinction between restoration and enhancement is difficult to discern. Projects that are categorized by survey respondents as restoration projects may actually be enhancement projects.

The NCWRP makes every effort to notify appropriate organizations about the restoration project survey; however, it is likely that some restoration projects completed during FY 02-03 are not recorded in the NCWRP database. The NCWRP is continuing to improve methods of data collection to increase the accuracy this information.

Net Gains/Losses of Wetlands and Streams Including Regulatory and Non-Regulatory Gains in Wetlands and Streams

As depicted in Tables 5-4 through 5-6, when regulatory losses, compensatory mitigation requirements and non-mitigation projects are combined, there is a net gain of 61.5 acres of wetlands and a net loss of 61,864 linear feet of streams for the state during FY 02-03. Additional wetland, riparian and buffer preservation efforts were also reported (Appendix C, Table C-1). Preservation of 676 acres of wetlands, 41,801 of riparian buffer and 69,750 linear feet of streams were reported.

Table 5-4 Net Gains/Losses of Acres of Wetlands by River Basin, FY 2002-2003

River Basin	Regulatory gains or losses (acres)	Non-regulatory gains for restoration/ creation (acres)	Net gains/ losses (acres)
Broad	-0.3	0	-0.3
Cape Fear	-38.6	0	-38.6
Catawba	-6.4	0	-6.4
Chowan	-0.8	0	-0.8
French Broad	-0.2	0	-0.2
Hiwassee	0.0	0	0.0
Little Tennessee	-0.2	0	-0.2
Lumber	23.2	0	23.2
Neuse	25.8	0	25.8
New	-0.1	0	-0.1
Pasquotank	-4.0	35	31.0
Roanoke	-1.9	0	-1.9
Savannah	0.0	0	0.0
Tar-Pamlico	-5.0	0	-5.0
Watauga	0.0	0	0.0
White Oak	6.2	0	6.2
Yadkin-PeeDee	28.7	0	28.7
TOTALS:	**26.5**	**35**	**61.5**

Table 5-5 Net Gains/Losses of Feet of Streams by River Basin, FY 2002-2003

River Basin	Regulatory gains or losses (feet)	Non-regulatory gains for restoration/creation (feet)	Net gains/ losses (feet)
Broad	-1,161	0	-1,161
Cape Fear	-7,888	0	-7,888
Catawba	-19,906	0	-19,906
Chowan	0	0	0
French Broad	-5,875	0	-5,875
Hiwassee	-437	0	-437
Little Tennessee	-1,797	0	-1,797
Lumber	-981	0	-981
Neuse	-5,223	0	-5,223
New	-3,202	400	-2,802
Pasquotank	-636	0	-636
Roanoke	-5,203	1,400	-3,803
Savannah	-408	0	-408
Tar-Pamlico	-3,859	0	-3,859
Watauga	-454	0	-454
White Oak	-421	0	-421
Yadkin-PeeDee	-6,213	0	-6,213
TOTALS:	**-63,664**	**1800**	**-61,864**

Table 5-6 Net Gains/Losses of Acres of Riparian Buffer by River Basin, FY 2002-2003

River Basin	Regulatory gains or losses (acres)	Non-regulatory gains for restoration/ creation (acres)	Net gains/ losses (acres)
Catawba	-0.02	0	-0.02
Neuse	16.53	0	16.53
Tar-Pamlico	-2.05	0	-2.05
TOTALS:	**14.46**	**0**	**14.46**

Appendix A – The N.C. Wetlands Restoration Program 2003 Annual Report to the U.S. Army Corps of Engineers

As required by paragraph VI of the Memorandum of Understanding (MOU) between the U.S. Army Corps of Engineers Wilmington District (COE)and NCWRP, a report documenting NCWRP's activities related to the MOU has been prepared and is submitted to the COE for review.

The majority of the information concerning the activities of the NCWRP is documented in the main body and appendices of this report that has been prepared for the Environmental Review Commission of the N.C. General Assembly as required by the enabling legislation for the NCWRP. The 2003 Annual Report, including this appendix, documents all activities of the NCWRP during FY 02-03 (July 1, 2002, through June 30, 2003). This appendix will address the specific reporting requirements found in Paragraphs V and VI of the MOU.

Memorandum of Understanding: Reporting Requirements

As specified in paragraphs V and VI of the MOU, the following information is presented in this report: the administrative costs associated with the MOU; a summary of monitoring results of projects that have been implemented; an accounting of the amount of restoration, creation, enhancement or preservation that has been conducted in each river basin by catalog unit; an accounting of the acres of mitigation required by Section 404 permits in each river basin by catalog unit; documentation concerning the implementation of projects in accordance with the time frame specified in the MOU; and an accounting of the funds that have been paid into the Wetlands Restoration Fund to satisfy the compensatory mitigation requirements of Section 404 permits.

Little Bugaboo Creek

Administrative Costs Associated with Implementation of the MOU

The salaries, travel and other operating expenses of eight positions are funded through the Compensatory Mitigation Fund (Account 2981). The cost of these positions during FY 02-03 was $487,056, the equivalent of 6.7 percent of the payments to Account 2981, an increase of 4 percent from last year. This is related to changes in both the administration costs and payments. Support for four NCWRP positions were permanently shifted from the operating budget to the receipt-supported Trust Fund during state government's budget crisis. Payments to the Wetlands Restoration Trust Funds were 57 percent less than last year. Administrative costs are incorporated within the fee structure and will not reduce the funding available for compensatory mitigation projects. Less than 4.3 percent of the expenditures were related to these administrative costs.

Summary of Monitoring Results of Projects

As required by Paragraph IV of the MOU, monitoring reports and as-built plans for each project will be submitted to the COE upon completion of each project. In addition, the appropriate COE Regulatory Field Office is notified during the planning and design phase of each project to provide an opportunity for input during the design phase of the project.

The NCWRP has constructed 21 projects and is monitoring these projects in accordance with the

MOU (Table A-1). The monitoring reports contain hydrological, fluvial geomorphological and vegetative monitoring data as appropriate for each project as well as project specific data necessary to ensure success of the restoration project. The first monitoring report for each constructed project is submitted to NCWRP during the fall after the first full growing season after the initial planting of vegetation. Monitoring continues for at least five full growing seasons after planting or until after all success criteria have been met. The full monitoring reports for all projects are submitted to the COE by January 1 of each year and are available for review at the NCWRP office located at 320 West Jones Street, Raleigh, North Carolina.

The second year of monitoring was complete for three projects (YD-101-WL-S-SM, Stone Mountain; CT-101-AX-S-PD, Payne Dairy; and WO-001-ON-W-SC1, Sturgeon City) during FY 02-03. Three projects completed the first year of monitoring during FY 02-03 (NU-203-WS-H-HSC, Hominy Swamp; CF-0020GU-S-PP, Price Park; and NW-001-AG-S-BC, Brush Creek). Following is a summary of the results of these reports. Eleven additional projects will complete the first year of monitoring during FY 03-04 (Table A-1).

Monitoring of Stream Restoration Projects

The monitoring of stream restoration projects involves the measurement of fluvial geomorphologic and vegetative parameters. Fluvial geomorphologic parameters include the measurement of channel dimension (cross-sections), pattern (sinuosity) and profile (channel slope). In addition, channel substrate is measured by performing pebble counts at identified pool and riffle cross-sections. Vegetative monitoring focuses on the survival, growth and diversity of vegetation within the riparian buffer of stream restoration projects.

Stream Restoration Success Criteria

The success criteria for stream restoration projects are based on the stability of the fluvial geomorphological parameters. Channel stability is primarily based on the measurement of dimension and slope. The success criteria has been met when there is no significant difference between the measurements for dimension and slope in the restored channel and the range for these parameters for the reference stream. A significant change is defined as a value that falls outside the specified range in the morphological table for the reference stream type.

Vegetative monitoring focuses on the survival, growth and diversity of planted species in the riparian area (30-50 feet on both sides of the stream). The vegetative success criterion is met by documenting the survival and growth of at least 320 trees per acre of the species selected for each site. In addition, the species composition of the riparian buffer must meet the species diversity criteria established for each project based on site-specific conditions.

Hominy Swamp Creek

Monitoring of Wetland Restoration Projects

The monitoring of wetland restoration/enhancement projects involves the measurement of the hydrological and vegetative parameters. Hydrologic monitoring includes the measurement of groundwater hydrology, i.e., the depth from the surface to the groundwater table throughout the year. Vegetative monitoring focuses on the survival, growth and diversity of vegetation within the riparian buffer of stream restoration projects.

Table A-1 Status of Monitoring for NCWRP Projects

Project Name	Project Number	Project Type	River Basin	Cataloging Unit	County	Date Construction	Date Planted	First Monitoring
Stone Mountain	YD-101-WL-S-SM	S	Yadkin	03040101	Wilkes	Jul-00	Feb-01	Nov-01
Payne Dairy	CT-101-AX-S-PD	S	Catawba	03050101	Alexander	Mar-01	Mar-01	Nov-01
Sturgeon City (Phase I)	WO-001-ON-W-SC1	W	White Oak	03030001	Onslow	Mar-01	Mar-01	Nov-01
Hominy Swamp Creek	NU-203-WS-S-HSC	S	Neuse	03020203	Wilson	Aug-01	Dec-01	Nov-02
Price Park	CF-002-GU-S-PP	S	Cape Fear	03030002	Guilford	Jul-01	Dec-01	Nov-02
Brush Creek	NW-001-AG-S-BC	S	New	05050001	Alleghany	Jun-01	Dec-01	Nov-02
High Vista	FB-105-BN-S-HV	S	French Broad	06010105	Buncombe	Aug-02	Dec-02	Nov-03
Wike Property	CT-101-CT-S-WP	S	Catawba	03050101	Catawba	Jul-02	Dec-02	Nov-03
Howell Woods	NU-201-JS-W-HW	W	Neuse	03020201	Johnston	Jul-02	Dec-02	Nov-03
Kentwood Park	NU-201-WK-S-KP	S	Neuse	03020201	Wake	Aug-02	Dec-02	Nov-03
Chavis Park	NU-201-WK-S-CP	S	Neuse	03020201	Wake	Aug-02	Dec-02	Nov-03
Smith/Austin Creek	NU-201-WK-SWB-SAC	S,W,B	Neuse	03020201	Wake	Aug-02	Dec-02	Nov-03
Brown Branch	CT-101-CL-S-BB	S	Catawba	03050101	Caldwell	Sep-02	Dec-02	Nov-03
Beaver Creek	YD-101-SU-S-BC	S	Yadkin	03040101	Surry	Aug-02	Dec-02	Nov-03
Bear Swamp Creek	TP-101-FR-S-BSC	S	Tar-Pamlico	03020101	Franklin	Jul-02	Dec-02	Nov-03
Sandy Creek	CF-002-DU-SW-SC	S,W	Cape Fear	03030002	Durham	Apr-03	Apr-03	Nov-03
Clear Creek	FB-105-HD-S-CC	S	French Broad	06010105	Henderson	Apr-03	Dec-03	Nov-04
Suck Creek	CF-003-MO-S-SC	S	Cape Fear	03030003	Moore	Apr-03	Dec-03	Nov-04
Hillsdale Park	CF-002-GU-S-HP	S	Cape Fear	03030002	Guilford	Jun-03	Dec-03	Nov-04
Gillespie Golf Course	CF-002-GU-S-GGC	S	Cape Fear	03030002	Guilford	Aug-03	Dec-03	Nov-04
Bugaboo Creek	YD-101-WL-S-BC	S	Yadkin	03040101	Wilkes	Aug-03	Dec-03	Nov-04

Project Type: S -- Stream; W -- Wetland; B -- Riparian Buffer

Wetland Restoration/Enhancement Success Criteria

Hydrological restoration is achieved when the restored site meets the hydrological success criteria based on site-specific conditions associated with landscape position and soil types. At a minimum and as the primary hydrological success criterion, monitoring must document that the groundwater table is within 12 inches of the ground surface from 5 to 12 percent of the growing season. As a second hydrological success criterion, the NCWRP monitors reference wetlands that are similar in type and landscape position. Data collected from reference sites are compared to similar information related to the restoration site. Success for this hydrological criterion is achieved when the hydroperiod of the restored site is within plus or minus 10 percent of the hydroperiod of the reference site.

Vegetative monitoring focuses on the survival, growth and diversity of planted species within the restored/enhanced wetland. The vegetative success criterion is met by documenting the survival and growth of at least 320 trees per acre of the species selected for each site. In addition, the species composition of the restored/enhanced wetland must meet the species diversity criteria established for each project based on site-specific conditions.

Summary of Monitoring Results
YD-101-WL-S-SM - Stone Mountain (Second Year Report)

A stream restoration project consisting of 7,000 linear feet of restoration and 2,590 of enhancement was performed on the East Prong of the Roaring River in Stone Mountain State Park in 2000. The primary goals of this project were to improve water quality and habitat by returning the river channel to a stable pattern, dimension and profile.

Fluvial Geomorphology

Stream cross-sections (dimension) exhibited little to no change from years 2000 to 2002. Minor changes in pool dimension (e.g., pool deepening and riffle dimensions or some instance of channel narrowing) indicate stability within the channel. Longitudinal profile surveys confirmed some pool deepening, little to no change in riffles slopes and proper functioning of grade control structures. The average channel slope of the project is very similar to the conditions following construction in the year 2000.

Stone Mountain

Vegetation

The average density of surviving planted trees is 840 trees per acre. With the exception of one location, all the monitoring plots have at least a density of 320 surviving trees per acre. Natural regeneration of several desirable species (e.g., sycamore, tulip poplar and river birch) was exhibited in monitoring plots and throughout the site. The diversity of species within each plot is within the range established for this project.

Remedial Actions

A large log cross vane was repaired in Reach 2 in the year 2001. In November 2002, two log cross vanes in Reach 2 and 4 were replaced with rock cross vanes.

To ensure adequate diversity and continued survival of a minimum of 320 stems per acre, additional planting (live stakes and bare root seedlings) was performed during winter 2002-03. While the monitoring reports maintain the vegetative success criteria has been met, NCWRP staff have walked the site with North Carolina State University (NCSU) plant

specialists and determined that more remedial action is warranted. Several large spaces in the riparian area lack the appropriate seedling density.

Deer browse continues to be a major problem. The NCWRP and NCSU staff determined that the first phase of remedial activity will begin with planting larger trees close to the stream bank for the winter of 2003-04. Phase II will include additional plantings of larger trees in the outer riparian area. The necessity to phase the planting is related to the availability of commercially grown trees that meet the projects specifications for height and root-collar diameter.

CT-101-AX-S-PD - Payne Dairy (Second Year Report)

A stream restoration project was performed on a 7,000 linear foot reach of Jumping Run Creek in Alexander County. Priority I restoration was performed on 5,180 feet of stream channel. The remainder of the project consisted of 470 linear feet of Enhancement I and 1,350 linear feet of Enhancement II. The entire 7,000 linear foot reach was fenced to remove cattle from the stream on an active dairy farm. The primary goals of this project were to improve water quality and habitat through the restoration of a stable channel and restore the vegetation in the adjacent riparian buffer.

Fluvial Geomorphology

The second year of monitoring shows stable channel dimensions and profiles that match the conditions of the post-construction and first year topographical surveys. The majority of rock vanes were functioning properly with the exception of several structures that experienced some damage from past storm events. At these locations, the channel profile has adjusted resulting in localized degradation, i.e., head cutting. The majority of structures that experienced damage are located in the upper portions of the project where the average channel slope is highest. Lower sections of the project are not experiencing changes in dimension and profile.

The second year's topographical survey of the restored stream channel shows the horizontal alignment to be stable with little indication of bank erosion and no appearance of bank failures or shoot cut-offs.

Vegetation

The average density (i.e., survival) of the planted trees in the riparian buffer was less than 320 stems per acre; therefore, the success criteria for restoring vegetation was not met. The survival of live stakes within the bankfull channel exceeded the requirement of 320 stems per acre. In addition, the herbaceous vegetation on the floodplain and the streambanks provides 100 percent cover resulting in stabilization of the soil on the floodplain and the streambanks.

Payne Dairy

Remedial Actions

Damaged grade control structures will be repaired. The riparian buffer areas were replanted in the spring of 2002 but have yet to meet the success criteria for tree species density. Aggressive management of competitive and invasive species (e.g., *Festuca* sp. and *Ligustrum* sp.) will be undertaken to improve the survival and growth of planted species. Additional plantings are scheduled for late 2003.

WO-001-ON-W-SC1 - Sturgeon City

(Second Year Report)
Three acres of brackish coastal marsh and tidal creek were restored at the site of an abandoned wastewater treatment plant on Wilson Bay in Jacksonville, North Carolina. This project involved the removal of fill and debris that had been used to fill the marsh. The area was graded to the elevation of adjacent marshes and planted with giant cordgrass (*Spartina cynosuroides*) and other species. The goal of the project was to stabilize the shoreline with native vegetation and to improve water quality and habitat through the restoration of the marsh. This project is just one of the actions taken to improve the water quality of Wilson Bay and demonstrates how compensatory mitigation projects can be incorporated into watershed scale projects.

Vegetation and Hydrology
The hydrological restoration of this project is dependent on the constructed topography of the site which was based on the elevations of surrounding and adjacent marsh areas. As such, the survival of the reestablished marsh plant communities, which are sensitive to minor differences in hydroperiod, will be used as a proxy for hydrological restoration. All monitoring plots for vegetation exhibit high survival of planted species and exceed the success criterion of 25 percent cover. The species composition within the planted marsh community has not changed from the composition reported by the post-construction survey or the first year's monitoring report.

Remedial Actions
Invasive herbaceous plants (e.g., *Digitaria* sp.) observed in some plots will continue to be monitored with actions taken as necessary to ensure that these species do not impede the growth of desired species.

Sturgeon City

NU-203-WS-H-HSC – Hominy Swamp (First Year Report)
In the year 2001, 2,232 linear feet of stream restoration was performed in Wilson City Recreational Park in Wilson, North Carolina. The project's objectives were to stabilize severe stream bank erosion, minimize channel migration and improve the stream's aquatic habitat. A Priority 1 stream restoration methodology was implemented and a riparian plant community was planted in a 50-foot wide area leading away from both sides of the stream.

Fluvial Geomorphology
A comparison of the as-built and monitored conditions of June 2002 indicates that the stream geometry is consistent with the original design parameters, such as riffle cross-sectional area, width to depth ratios and average water surface slope.

All rock and log cross vanes appeared to have little damage and are functioning as designed. Where bank erosion has occurred, it has been minimal and associated with isolated areas that experience pedestrian traffic within the bankfull channel. The erosion is likely exacerbated by trampling of planted species, especially live stakes that would lend to bank stability.

Vegetation
Results from the monitoring of riparian vegetation after one full growing season show that survival of planted species is poor and does

not meet the success criteria. Bare root seedling mortality after the initial planting was directly attributable to over 200 plants being pulled and left on the ground by park visitors. In addition, maintenance staff mowed many of the trees that were left; only the live stakes on the stream bank survived the first planting.

Remedial Actions
Riparian areas that exhibited poor survival were re-planted in 2002. Staff have met with park maintenance and emphasized the easement boundary. Mowings inside the easement area have halted and riparian boundary markers have since been installed.

CF-0020GU-S-PP, Price Park (First Year Report)
In the year 2001, approximately 1,775 feet of Priority 1 stream restoration was performed on an unnamed tributary to Horsepen Creek in Greensboro, North Carolina. The stream was previously a 1,400-foot long channel that had been straightened and widened in the 1930s to convey floodwater. A riparian plant community was planted in the winter of 2002.

Fluvial Geomorphology
The site is meeting the success criteria for maintaining a stable geomorphology. The stream's longitudinal profile that was surveyed during the first year of monitoring matches the profile surveyed shortly after construction and is maintaining the average channel slope set forth

Brush Creek

in the project's design parameters. There was a slight deepening of pool features that is considered a natural adjustment. The location and elevation of rock structures are nearly identical to the as-built conditions which supports the visual assessment that the structures are stable and functioning properly. Surveys of various cross-sections of the channel did not indicate a significant change in channel dimension. The pattern of the stream is unchanged from the as-built condition.

Vegetation
The survival of the planted riparian vegetation for the first year of monitoring was poor and does not currently meet the density needed to meet the success criteria for establishing vegetation. The high mortality of the bare root seedlings was due to the extreme drought conditions when the seedlings were planted and throughout the growing season for the first year.

Remedial Actions
The restoration site will be replanted in the winter of 2003-2004 with appropriate site preparation and maintenance.

NW-001-AG-S-BC, Brush Creek (First Year Report)
The Brush Creek stream restoration project was constructed in 2001. The project consists of approximately 2,300 feet of enhancement and stabilization on Brush Creek and approximately 950 feet of restoration on Little Pine Creek, a tributary to Brush Creek. Brush Creek and Little Pine Creek were previously exhibiting severe bank erosion and failure as well as a subsequent degradation of aquatic habitat. Both streams are classified for the protection of trout propagation and survival.

Fluvial Geomorphology
Surveys of cross-sections on both streams show that their dimensions have not changed significantly compared to the as-built dimensions. There is some visual evidence of channel adjustments in some areas, such as instances of localized bank erosion on Little Pine Creek. These areas can be addressed through additional toe protection and contouring of stream banks.

The survey of stream profile for the first year matches that of the restored conditions. With the exception of a local area of bank erosion, the surveys of the streams' dimension and profile match the conditions of the site shortly after construction.

Vegetation
A survey of the density of plantes reports that seedling survival was below the success criteria of 320 stems per acre. The herbaceous vegetation on both the streambank (and toe) and floodplain provides 100 percent coverage to stabilize the soil.

Remedial Actions
The areas of bank erosion on Little Pine Creek will be repaired in the year 2003. A supplementary planting plan is being developed, and the site will be replanted in the winter of 2003-2004.

Accounting of the Amount of Restoration, Creation, Enhancement or Preservation Conducted in Each River Basin by Catalog Unit
The NCWRP currently has 67 projects that meet the definition of "instituted" and will be used to meet the compensatory mitigation requirements of Section 404 permits (Table 1-1). These 67 projects will collectively restore, enhance and preserve approximately 539.9 acres of wetlands, 219,112 linear feet of stream channel and 335 acres of riparian buffer. As defined in the MOU, "instituted" means that a site has been identified, the property has been acquired and a contractor has been assigned to design the project. An additional 26 projects in the acquisition phase will result in the restoration, enhancement or preservation of 268 acres of wetlands, 85,950 linear feet of stream and 186.75 acres of riparian buffer (Table 1-2).

Instituted – A site has been identified, the property has been acquired and a contractor has been assigned to design the project

Accounting of the Compensatory Mitigation Required by Section 404 Permits Assumed by NCWRP in Each River Basin by Catalog Unit
During FY 02-03, the NCWRP assumed the compensatory mitigation requirements of 57 Section 404 permits. The compensatory mitigation requirements of these permits require the restoration of 16,646 linear feet of stream channel and 33.3008 acres of wetlands (Table A-2). Payments to fund mitigation projects associated with these impacts totaled $3,228,515 (Table A-3).

Since the effective date of the MOU (Nov. 4, 1998) the NCWRP has assumed the compensatory mitigation requirements of 174 Section 404 permits. The cumulative compensatory requirements of these permits require the restoration of 201,308 linear feet of stream channel and 236.732 acres of wetlands. The impacts accepted are distributed among 11 river basins and 23 catalog units (Table A-4).

Documentation Concerning the Implementation of Projects in Accordance with the Timeframe Specified in the MOU
As stipulated in paragraph IV of the MOU, the NCWRP has a specified amount of time from the date a payment for compensatory mitigation is received to implement projects that satisfy the compensatory mitigation requirement. The long-term goal of the NCWRP is to identify and implement projects that are incorporated into watershed restoration strategies in advance of permitted impacts. Although significant progress has been made in achieving this goal, the current emphasis of the NCWRP is compliance with the timeframes established by the MOU. This section will examine the progress NCWRP has made in meeting the compensatory mitigation requirements of Section 404 permits from the initiation of the MOU through the end of FY 02-03.

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Table A-2 Section 404 Compensatory Mitigation Accepted During FY 2002 -- 2003

COE Number	River Basin	Cataloging Unit	Payment Date	Mitigation Due Date	Mitigation Requirement				
					Stream (linear feet)			Wetland (acres)	
					cold	cool	warm	riparian	non-riparian
200230574	Yadkin	3040105	6/20/2002	6/20/2003			292		
200120974	Neuse	3020201	6/27/2002	6/27/2003			302		
200230135	French Broad	6010105	7/2/2002	7/2/2003				0.58	
200100296	Cape Fear	3030004	7/2/2002	7/2/2003				3.7	
199402926	White Oak	3030001	7/8/2002	7/8/2003				5.93	
200230204	French Broad	6010105	7/8/2002	7/8/2003			2428	1.5	
199700923, 199700924, 199700925	Cape Fear	3030002	7/9/2002	7/9/2003				1.76	
200220819	Neuse	3020201	7/11/2002	7/11/2003			6254		
200220894, 200220895	Roanoke	3010107	7/26/2002	7/26/2003					0.8
200220332	Catawba	3050103	8/9/2002	8/9/2003			298		
200120825	Tar-Pamlico	3020101	8/13/2002	8/13/2003				0.62	
200021887	Neuse	3020201	9/12/2002	9/12/2003				0.11	
200200091	Cape Fear	3040203	9/18/2002	9/18/2003				0.48	
200220906	Cape Fear	3030002	9/24/2002	9/24/2003		285		0.82	
200200442	Cape Fear	3030005	9/24/2002	9/24/2003				0.2	
200100555	Cape Fear	3030001	10/9/2002	10/9/2003					0.24
199700175	Neuse	3020201	10/14/2002	10/14/2003			582	2.26	2.52
200231208	Yadkin	3040105	10/28/2002	10/28/2003			450		
200221113	Neuse	3020201	11/19/2002	11/19/2003			340		
200130682	French Broad	6010105	11/26/2002	11/26/2003		380			
200231321	Catawba	3050101	11/26/2002	11/26/2003			375		
200221185	Neuse	3020201	11/26/2002	11/26/2003			167		
200200010	Cape Fear	3030001	11/26/2002	11/26/2003					0.376
200200438	Cape Fear	3030001	11/27/2002	11/26/2003					0.489
200221320, 200221321, 200221322	Neuse	3020201	12/9/2002	12/9/2003			574		

Table A-2 Continued next page

Continued from previous page: Table A-2 Section 404 Compensatory Mitigation Accepted During FY 2002 -- 2003

COE Number	River Basin	Cataloging Unit	Payment Date	Mitigation Due Date	Mitigation Requirement				
					Stream (linear feet)			Wetland (acres)	
					cold	cool	warm	riparian	non-riparian
200200945	Cape Fear	3030001	12/18/2002	12/18/2003					0.33
200230878, 200230879	Catawba	3050101	12/31/2002	12/31/2003			255		
200231309, 200230752	Yadkin	3040105	1/13/2003	1/13/2004		470		1.72	
200200731	Cape Fear	3030004	1/16/2003	1/16/2004					0.3
200231320	Catawba	3050103	2/5/2003	2/5/2004			250		
200330098	Catawba	3050101	2/12/2003	2/12/2004			174		
200220875	Neuse	3020201	2/27/2003	2/27/2004			215		
200120271, 200221123	Neuse	3020201	2/27/2003	2/27/2004				0.88	
200320410	Neuse	3020201	3/21/2003	3/21/2004			288		
200300439	Cape Fear	3030005	3/26/2003	3/20/2004					0.15
200201284	Cape Fear	3030001	3/26/2003	3/24/2003					0.128
200120507	Cape Fear	3020002	4/5/2003	4/4/2004				0.44	
200120766	Neuse	3020201	5/2/2003	5/2/2004				0.9	
200201110	Cape Fear	3030007	5/7/2003	5/6/2004				0.8	
200200390	Cape Fear	3030007	5/7/2003	5/6/2004				0.8198	
200200569	Cape Fear	3030007	5/7/2003	5/6/2004				0.482	0.096
199801874	Lumber	3040203	5/7/2003	5/6/2004				1.6	
200200250	Cape Fear	3030005	5/16/2003	5/15/2004					0.81
200231120	Catawba	3050103	5/23/2003	5/22/2004			185		
200201323	Cape Fear	3030005	6/5/2003	6/4/2004				0.9	
200330434	New	5050001	6/12/2003	6/11/2004				0.48	
200300278	Lumber	3040203	6/17/2003	6/16/2004				0.58	
200320621	Cape Fear	3030002	6/24/2003	6/24/2004			480		
200220949	Neuse	3020201	6/25/2003	6/24/2004			1602		
				Totals	**0**	**1,135**	**15,511**	**27.5618**	**6.239**
			Total Stream Footage				**16,646**		
			Total Wetland Acreage					**33.8008**	

Continued from page 44
Since its inception, the NCWRP has accepted 238,005 linear feet of stream and 304.47 acres of wetland mitigation (401 and 404) in North Carolina. The NCWRP has restoration projects which will restore 304.9 acres of wetlands and 219,112 linear feet of stream. A summary of statewide wetland and stream mitigation status can be found in Section 2.

In accordance with the schedule established by the MOU, there were 174 Section 404 permits with compensatory mitigation requirements due by the end of FY 02-03 (Table A-4). The mitigation requirements of 89 percent of these permits were met by projects that were instituted by the end of FY 02-03. The mitigation for 78 percent of the permits was provided within the timeframe established in the MOU. The mitigation requirements met for FY 02-03 fell 3 percent over the previous fiscal year. The permits that met the timeframe established in the MOU fell 6 percent. The primary factor for the slight decrease in compliance was directly related to the amount of wetland and stream mitigation that came due last fiscal year. Of the total amount of wetland and stream mitigation due cumulatively for the program, 72 percent of the total stream linear footage and 67 percent of the total wetland acreage came due in FY 02-03.

Horsepen Creek Tributary, Price Park

The NCWRP has assumed the responsibility of Section 404 permits with compensatory mitigation requirements totaling 236.732 acres of wetlands and 201,308 linear feet of stream channel (Table A-4). The NCWRP has instituted projects that will result in the restoration, enhancement or preservation of 539.9 acres of wetlands and 219,112 linear feet of stream channel.

Although the total amount of restoration instituted by the NCWRP exceeds the total amount of required mitigation on a statewide basis, there are mitigation obligations that have not been met. Specifically, at the end of FY 02-03, there were 20 permits for which the mitigation requirements were not met. A number of actions have been initiated to address these outstanding requirements, including the allocation of additional staff resources to the watersheds of concern, the development of Local Watershed Plans in these areas to assist in the identification of appropriate projects and the issuance of Requests for Proposals for wetland and stream restoration.

Accounting of the Funds Paid into the Wetlands Restoration Fund to Satisfy the Compensatory Mitigation Requirements of Section 404 permits

As required by the MOU, the NCWRP has established a separate account – 2981: Compensatory Mitigation within the DENR Wetlands Trust Fund – as a repository for all payments made to the NCWRP to satisfy Section 404 compensatory mitigation requirements. As reflected in Section 3 of the 2001 NCWRP Annual Report, Compensatory Mitigation Account 2981 is a repository for payments that satisfy both Section 404 permit and 401 Water Quality Certification compensatory mitigation requirements. During FY 02-03, payments to Account 2981 to satisfy the compensatory mitigation requirements of Section 404 permits totaled $3,228,515. These payments fulfill the compensatory mitigation requirements of 57 permits (Table A-2 and A-3). Since the effective date of the MOU, Nov. 4, 1998, 165 payments associated with 230 Section 404 permits have been accepted totaling $30,774,985. These were made to Account 2981 to satisfy the compensatory mitigation requirements of Section 404 permits.

Section 5 of this report explains the use of the funds deposited into Account 2981 during FY 02-03.

Additional Actions Taken To Implement the Memorandum of Understanding

Development of Planting Specifications

The NCWRP developed planting specifications to improve the survivability of riparian plantings during FY 02-03. These new specifications will be used for all plantings beginning December 2003.

The NCWRP staff focused on several areas for improving past successes. First, the new specifications require that the construction contractor provide a qualified supervisor with planting experience. The supervisor must have at least one of several listed certifications or registrations (for example, registered forester or registered landscape contractor). Second, the plants themselves must meet minimum requirements. For example, bareroot seedlings must have four first-order lateral roots that exceed one millimeter in diameter. In addition, hardwood bareroot seedlings must have a minimum root collar diameter of 3/8 inch. These characteristics will ensure that larger, healthier specimens will be planted, and those not meeting the specifications will be culled. Finally, the specifications also cover the planting techniques.

Table A-3 Section 404 Compensatory Mitigation Payments

404 Permit Number	Payment Date	Stream (linear feet)	Non-Riparian Wetland Acres	Riparian Wetland Acres	Payment Amount
199402926	7/8/2002			5.93	$ 144,000
199700175	10/14/2002	582	2.52	2.26	$ 177,750
199801874	5/7/2003			1.6	$ 38,400
199930123	7/22/2002				$ 30,000
200021887	9/12/2002			0.11	$ 6,000
200100296	7/2/2002			3.7	$ 90,000
200100555	10/9/2002		0.24		$ 3,000
200101147	4/7/2003				$ 120,000
200120507	4/5/2003			0.44	$ 12,000
200120766	5/2/2003			0.9	$ 24,000
200120825	8/13/2002			0.62	$ 18,000
200130682	11/26/2002	380			$ 47,500
200200010	11/26/2002		0.376		$ 6,000
200200091	9/18/2002			0.48	$ 12,000
200200250	5/16/2003		0.81		$ 21,000
200200390	5/7/2003			0.8198	$ 24,000
200200438	11/26/2002			0.489	$ 6,000
200200442	9/24/2002			0.2	$ 6,000
200200569	5/7/2003		0.096	0.482	$ 18,000
200200731	1/16/2003		0.3		$ 6,000
200200945	12/18/2002		0.33		$ 6,000
200201110	5/7/2003			0.8	$ 24,000
200201284	3/25/2003		0.128		$ 3,000
200201323	6/5/2003			0.9	$ 24,000
200220332	8/9/2002	298			$ 37,250
200220819	7/11/2002	6,254			$ 781,750
200220875	2/27/2003	215			$ 26,875
200220906	9/24/2002	285		0.82	$ 59,625

Table A-3 Continued next page

Continued from previous page: Table A-3 Section 404 Compensatory Mitigation Payments

404 Permit Number	Payment Date	Stream (linear feet)	Non-Riparian Wetland Acres	Riparian Wetland Acres	Payment Amount
200220949	6/25/2003	1,602			$ 320,400
200221113	11/19/2002	340			$ 42,500
200221185	11/26/2002	167			$ 20,875
200230135	7/2/2002			0.58	$ 18,000
200230204	7/8/2002	2,428		1.5	$ 339,500
200230574	6/20/2002	292			$ 36,500
200231120	5/23/2003	185			$ 23,125
200231208	10/14/2002	450			$ 56,250
200231320	2/5/2003	250			$ 34,375
200231321	11/26/2002	375			$ 46,875
200300278	6/17/2003			0.58	$ 18,000
200300439	3/21/2003		0.15		$ 3,000
200320410	3/21/2003	288			$ 36,000
200320621	6/24/2003	480			$ 96,000
200330098	2/12/2003	174			$ 37,000
200330434	6/12/2003			0.48	$ 12,000
199700923, 1997009224, 1997009225	7/8/2002			1.76	$ 48,000
200120271, 200221123	2/27/2003	0		0.88	$ 44,750
200120974, 200220453	6/27/2002	302			$ 37,750
200220894, 200220895	7/26/2002		0.8		$ 12,000
200221320, 200221321, 200221322	12/9/2002	574			$ 35,875
200230878, 200230879	12/31/2002	255			$ 31,875
200231309, 200230752	1/13/2003	470		1.72	$ 100,750
SUM: STREAM, WETLANDS		**8,632**	**0.95**	**7.50**	**$ 1,451,400**

The planting techniques cover storage of seedlings, transport, handling and actual planting. The new specifications require all hardwood seedlings be planted with a shovel or an auger to ensure the proper depth and size of hole. Moreover, payment will be based on the percentage of seedlings planted correctly. NCWRP requires all designers to include these new planting specifications in bid documents.

Advisory Team Activities

The MOU between DENR and the COE (see Appendix B, 1998 Annual Report) requires the NCWRP to convene an Advisory Team to review the progress of the NCWRP in meeting compensatory mitigation requirements of Section 404 permits.

The NCWRP held four Advisory Team meetings during FY 02-03. The first meeting was held in Raleigh on Aug. 14, 2002, and the main topics were the Endangered Species process in NCWRP projects and the introduction of dam removals as mitigation options. The second meeting was held in Raleigh on Oct. 16, 2002, and the main topics were compliance with the MOU, Endangered Species and urban stream restoration issues. The third meeting was held in Charlotte on Jan. 16, 2003. The primary agenda items were urban stream restoration and stream monitoring issues. The group also went on-site to several potential projects to utilize the new COE quality of stream rating sheet. The fourth meeting was held in Asheville on April 23, 2003.

The primary topic was the introduction of the new planting specifications and monitoring protocol offered by NCWRP. In addition, bankfull verification and urban stream issues were discussed.

Quarterly Progress Reports

The NCWRP acknowledges the need to provide information to the COE and other interested parties concerning the progress it has made in meeting assumed compensatory mitigation requirements of Section 404 projects. Although the Annual Report meets the reporting requirements of the Memorandum of Understanding, the NCWRP started providing quarterly reports to COE in January 2003.

Table A-4 Cumulative Compensatory Mitigation Requirements November 4, 1998 to June 30, 2003

Basin	Catloging Unit	Wetlands		Streams		
		Non-Riparian	Riparian	Cold	Cool	Warm
Cape Fear	3030001	2.246				
Cape Fear	3030002	1.06	41.14		480	40,825
Cape Fear	3030003					185
Cape Fear	3030004	0.8	38.42			5,594
Cape Fear	3030005	5.04	1.52			
Cape Fear	3030007	3.316	9.1			9,569
Catawba	3050101	0.52	7.39	3746	3664	26,801
Catawba	3050103		9.84			28,998
French Broad	6010105		2.08		4,189	3,290
Lumber	3040203		7.01			
Neuse	3020201	3.45	32.15			31,819
Neuse	3020202	7	0.75			2,483
Neuse	3020204					374
New (mountain)	5050001		1.68	410	320	
New (coastal plain)	3030001	1	5.93			
Pasquotank	3010205	5.46	2.42			
Roanoke	3010103					2,906
Roanoke	3010107	0.8	8.43			770
Tar-Pamlico	3020101	26.76	0.62			212
Tar-Pamlico	3020103					1,198
Yadkin	3040101		3.25		26,010	3,833
Yadkin	3040201	5.08	0.75			532
Yadkin	3040103					3,100
Yadkin	3040105		1.72		470	742
Totals		**62.532**	**174.2**	**4,156**	**34,663**	**162,489**
Total Wetland (acres)		**236.732**				
Total Stream (feet)						**201,308**

Table A-5 Cumulative Required Compensatory Mitigation and NCWRP Restoration Projects (404 Only) Due By June 30, 2003

			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
199921172, 200020339, 200021898	Cape Fear	3030002			1,116			11/14/2001	4/5/2000	CF-002-GU-S-PP	✓		
199502585	Neuse	3020201				2.37		12/1/2001	7/15/1999	NU-201JS-W-HW	✓		
199302820	Cape Fear	3030004			2,686			12/2/2001	7/24/2001, 4/9/2002	CF-004-HN-SW-JRC, CF-004-CB-S-CC	✓		
199830659	French Broad	6010105		780				12/2/2001	9/25/2001, 7/9/2001	FB-105-HD-S-CC, FB-105-BN-S-HV	✓		
200021861	Neuse	3020201				0.47		12/6/2001	7/15/1999	NU-201-JS-W-HW	✓		
199417015	Roanoke	3010103			2,906			12/14/2001	3/26/2002	RN-103/104-SK-S-SC	✓		
200021946, 200021887	Neuse	3020201			189			12/28/2001	6/30/1999	NU-201-WK-S-KP	✓		
						0.11		12/28/2001	7/15/1999	NU-201-JS-W-HW	✓		
199705426	Neuse	3020202			2,483			1/22/2002	5/30/2002	NU-202-LN-SW-WC	✓		
200021484-86	Yadkin	3040101			406			1/22/2002	4/23/2002	YD-101-FS-S-SP	✓		
200100100	Cape Fear	3030005					0.98	1/24/2002	1/22/2002	CF-005-BR-SW-BS	✓		
199820685	Cape Fear	3030002			268			2/3/2002	11/27/2001	CF-002-GU-S-GGC	✓		
199831147	French Broad	6010105		1,285				2/14/2002	7/9/2001	FB-105-BN-S-HV	✓		
199801874	Lumber	3040203				1.6		2/20/2002	7/21/2002	LU-203-RB-W-MSC	✓		
200000991	Cape Fear	3030004			100			2/28/2002	8/13/2001	CF-004-HN-SW-JRC	✓		
						28.2		2/28/2002	8/13/2001	CF-004-HN-SW-JRC	✓		

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation. [1]As defined in COE/DENR MOU

Table A-5 Continued next page

Continued from previous page: Table A-5 Cumulative Required Compensatory Mitigation and NCWRP Restoration Projects

			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
200001398	Yadkin	3040201				0.75		3/1/2002	6/21/2003	YD-201-RI-SW-HB	✓		
199831046	Catawba	3050103			1,400			3/6/2002	4/16/2002	CT-103-MK-S-MC	✓		
						3.9		3/6/2002	8/21/2003	CT-003-MK-S-EP	✓		
199921144	Neuse	3020201			372			3/27/2002	11/1/2001	NU-201-DU-S-SC	✓		
199602420, 200021006	Yadkin	3040101		3,642				3/27/2002	5/5/1999	YD-101-WL-S-SM	✓		
200120090	New	5050001	410					4/19/2002	4/4/2000	NW-001-AG-S-BC	✓		
200120287, 200120288	Tar-Pamlico	3020101			212			4/19/2002	5/16/2001	TP-101-FR-S-BSC	✓		
200120708, 200020902	Neuse	3020201					0.43	4/19/2002	7/15/1999	NU-201-JS-W-HW	✓		
					1,249			4/19/2002	1/3/2001	NU-201-WK-SWB-SAC	✓		
						1.16		4/19/2002	7/15/1999	NU-201-JS-W-HW	✓		
199920910	Cape Fear	3030002				0.82		4/25/2002	9/25/2001	CF-002-WK-SW-LBC	✓		
199931141	Catawba	3050101	3,746					4/28/2002	5/29/2001	CT-101-CL-S-BB	✓		
						1.56		4/28/2002			×		1.56
199930003, 199931059, 199931060, 199931061, 199931062, 199931063	French Broad	6010105		1,744				4/28/2002	7/9/2001	FB-105-BN-S-HV	✓		
199300197	Cape Fear	3030004			1,148			5/1/2002	8/13/2001	CF-004-HN-SW-JRC	✓		

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation. [1]As defined in COE/DENR MOU

Table A-5 Continued next page

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			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
199501526	Cape Fear	3030002			3,494			5/1/2002	9/25/2001, 3/26/2002	CF-002-WK-SW-LBC, CF-002-DU-SW-SC	✓		
						4		5/1/2002	9/25/2001	CF-002-WK-SW-LBC	✓		
199820670	Yadkin	3040101		2,560				5/1/2002	5/5/1999	YD-101-WL-S-SM	✓		
199920326	Neuse	3020201			532			5/1/2002	1/3/2001	NU-201-WK-SWB-SAC	✓		
199603343	Lumber	3040203				2.75		5/17/2002	7/21/2002	LU-203-RB-W-MSC	✓		
199500032	Roanoke	3010107				3		5/20/2002			×		3
199820755, 199821133	Neuse	3020201			480			5/20/2002	1/3/2001	NU-201-WK-SWB-SAC	✓		
200021059	Cape Fear	3030002			1,368			5/21/2002	11/27/2001	CF-002-GU-S-HP	✓		
199402528	Yadkin	3040101		2,928				5/25/2002	4/25/2001	YD-101-SU-S-BC	✓		
						3.25		5/25/2002	5/14/2002	YD-101-WL-SW-PC	✓		
199601917, 199700884	Neuse	3020201			10,226			5/25/2002	1/3/2001, 5/2/2002	NU-201-WK-SWB-SAC, NU-201-DU-S-EC	✓		
200120770	Neuse	3020201				0.658		6/5/2002	7/15/1999	NU-201-JS-W-HW	✓		
199603836	Cape Fear	3030007			875			6/6/2002	5/2/2002	CF-001-NH-S-PV	✓		
200030933 - 942	Catawba	3050103			742			6/6/2002	4/16/2002	CT-103-MK-S-MC	✓		
200110187, 200110384	Tar-Pamlico	3020103			1,198			6/6/2002	7/29/2003	TP-003-ED-S-TC	✓		
200020715, 200021152	Neuse	3020201				0.163		6/11/2002	7/15/1999	NU-201-JS-W-HW	✓		

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation. [1]As defined in COE/DENR MOU

Table A-5 Continued next page

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			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
199304806	Cape Fear	3030004			1,660			6/12/2002	8/13/2001	CF-004-HN-SW-JRC	✓		
200011238	Pasquotank	3010205					5.46	6/12/2002	9/31/02	PA-105-PA-W-HT	✓		
200020223-224, 200020538	Cape Fear	3030002			155			6/22/2002	11/27/2001	CF-002-GU-S-GGC	✓		
200120354	Neuse	3020201			135			6/29/2002	5/2/2002	NU-201-DU-S-EC	✓		
						0.28		6/29/2002	7/15/1999	NU-201-JS-W-HW	✓		
200031430	Catawba	3050101			16,574			7/6/2002			×	16,574	
							0.52	7/6/2002			×		0.52
200120158	Yadkin	3040103			3,100			7/16/2002	6/4/2002	YD-101-FS-S-BF	✓		
199800680	Yadkin	3040201			290			7/17/2002	6/21/2003	YD-201-RI-SW-HB	✓		
							2.88	7/17/2002	6/21/2003	YD-201-RI-SW-HB	✓		
199920734	Cape Fear	3030002				0.84		7/18/2002	3/26/2002	CF-002-DU-SW-SC	✓		
199930891	Catawba	3050101			210			7/26/2002	2/24/1999	CT-101-AX-S-PD	✓		
199820919	Cape Fear	3030002			1,005			7/29/2002	11/27/2001	CF-002-GU-S-HP	✓		
200100510, 199300309	Cape Fear	3030007					2.56	8/14/2002			×		2.56
200120939	Neuse	3020201				0.3087		8/14/2002	7/15/1999	NU-201-JS-W-HW	✓		
199502585	Cape Fear	3030002				1.14		8/17/2002	3/26/2002	CF-002-DU-SW-SC	✓		

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation. [1]As defined in COE/DENR MOU

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			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
199502886	Cape Fear	3030002			23,862			9/5/2002	11/27/01, 11/27/01, 11/27/01, 9/25/01, 3/26/02, 3/26/02, 3/26/02, 5/1/02, 6/14/02	CF-002-GU-S-HP, CF-002-GU-S-BP, CF-002-GU-S-BBP, CF-002-WK-SW-LBC, CF-002-AL-S-HNP, CF-002-AL-S-WC, CF-002-DU-SW-SC, CF-002-AL-S-RB, CF-002-AL-S-DX	✓		
						29.46		9/5/2002	3/15/02, 10/23/2001, 3/1/2003, 5/9/2002	CF-002-WK-SW-LBC, CF-002-DU-SW-SC, Haw River RFP, CF-002-RK-P-HR	✓		
199604215	French Broad	6010105		862				9/8/2002	5/19/2003	FB-005-TR-S-KC	✓		
199601876	Neuse	3020201			920			9/18/2002	6/30/1999	NU-201-WK-S-KP	✓		
199920833	Yadkin	3040101		12,760				9/18/2002	3/29/99, 4/25/01, 11/27/01, 4/9/02	YD-101-WL-S-SM, YD-101-SU-S-BC, YD-101-WL-S-BC, YD-101-WL-S-WC	✓		
199930586	Catawba	3050103			941			9/18/2002	4/16/2002	CT-103-MK-S-MC	✓		
200001592, 200001598	Yadkin	3040201			242			9/24/2002	6/21/2003	YD-201-RI-SW-HB	✓		
199601404	Roanoke	3010107			770			9/27/2002			×	770	
						5.43		9/27/2002			×		5.43

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			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
199601926	Yadkin	3040101		7,048				9/27/2002	4/9/2002, 5/14/02	YD-101-WL-S-WC, YD-101-WL-SW-PC	✓		
199602560	Cape Fear	3030007			178			9/27/2002	4/1/2002	CF-001-NH-S-PV	✓		
200030264-271	Catawba	3050103			1,054			9/27/2002	4/16/2002	CT-103-MK-S-MC	✓		
						5.94		9/27/2002			×		5.94
200120868	Neuse	3020201				0.32		10/3/2002	7/15/1999	NU-201-JS-W-HW	✓		
199820154	Neuse	3020201				8.4		10/4/2002	7/15/1999	NU-201-JS-W-HW	✓		
199930776	Catawba	03050101, 03050103			24,128			10/4/2002			×	24,128	
						5.25		10/4/2002			×		5.25
199830188	Catawba	3050101			2,199			10/5/2002	3/6/2001	CT-101-CT-S-WP	✓		
199400662, 199500517	Tar-Pamlico	3020101					26.76	10/5/2002	3/1/2003	KCI RFP	✓		
200210001-26	Pasquotank	3010205				2.42		10/15/2002	9/31/02	PA-105-PA-SW-CC	✓		
199820947	Neuse	3020201			260			10/17/2002	12/6/2001	NU-201-WK-S-BC	✓		
199911192	Neuse	3020202					7	10/22/2002	5/30/2002	NU-202-LN-SW-WC	✓		
						0.75		10/22/2002	5/30/2002	NU-202-LN-SW-WC	✓		
200021074	Neuse	3020201				4.54		10/22/2002	7/15/1999	NU-201-JS-W-HW	✓		
200120284	Neuse	3020201				0.45		10/22/2002	7/15/1999	NU-201-JS-W-HW	✓		
199601917, 199700884	Neuse	3020201				4		10/22/2002	7/15/1999	NU-201-JS-W-HW	✓		
199821210	Neuse	3020201			500			10/23/2002	12/6/2001	NU-201-WK-S-BC	✓		
200020203	Yadkin	3040101			499			10/24/2002	4/23/2002,	YD-101-FS-S-SP,	✓		

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation. [1]As defined in COE/DENR MOU

Table A-5 Continued next page

Continued from previous page: Table A-5 Cumulative Required Compensatory Mitigation and NCWRP Restoration Projects

			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
199702363	Catawba	3050101		3,664				10/26/2002			✓		
199931229, 199931000	Catawba	3050101			190			10/26/2002	3/6/2001	CT-101-CT-S-WP	✓		
199402773, 200020184	Cape Fear	3030002			3,700			10/26/2002	6/14/02, 5/22/02	CF-002-AL-S-DX CF-002-DU-S-FH	✓		
199403552	Cape Fear	3030007			8,516			10/31/2002			×	8,516	
						7		10/31/2002			×		7
199920857	New	5050001				1.2		10/31/2002			×		1.2
200220055	New	5050001	320					11/8/2002	10/6/1999	NW-001-AG-S-BC	✓		
200110916	Neuse	3020204			374			11/24/2002	5/30/2002	NU-202-LN-SW-WC	✓		
200120353	Cape Fear	3030002			5,304			12/17/2002			×	5,304	
						0.52		12/17/2002	3/26/2002	CF-002-DU-SW-SC	✓		
							1.06	12/17/2002	3/1/2003	Haw River RFP	✓		
200100628	Cape Fear	3030005				0.42		12/20/2002	1/22/2002	CF-005-BR-SW-BS	✓		
200200226	Cape Fear	3030004				0.88		2/19/2003	8/13/2001	CF-004-HN-SW-JRC	✓		
199820937	Cape Fear	3030004				5.64		1/3/2002	2/13/2001	CF-004-HN-SW-JRC	✓		
200020732	Cape Fear	3030002				1.34		2/22/2003	3/1/2003	Haw River RFP	✓		
200121014, 200220223	Cape Fear	3030002			268			3/14/2003	5/22/2002	CF-002-DU-S-FH	✓		
200100007	Cape Fear	3030005					3.1	4/5/2003	1/22/2002	CF-005-BR-SW-BS	✓		
200101075	Cape Fear	3030007					0.66	4/5/2003			×		0.66
200230067	Catawba	3050101			220			4/11/2003	3/6/2001	CT-101-CT-S-WP	✓		
200200226	Neuse	3020201			302			6/27/2003	11/1/2001	NU-201-DU-S-SC	✓		

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation. [1]As defined in COE/DENR MOU

Table A-5 Continued next page

Continued from previous page: Table A-5 Cumulative Required Compensatory Mitigation and NCWRP Restoration Projects

			Mitigation Requirement *										
COE Number	River Basin	Cataloging Unit	Stream (linear feet)			Wetland (acres)		Mitigation Due Date	Date Instituted[1]	Project Code	Mitigation Requirement Met	Mitigation Needed	
			cold	cool	warm	riparian	non-riparian				✓	Stream (linear ft)	Wetland (acres)
200220329	Cape Fear	3030003			185			4/22/2003	9/25/2001	CF-003-MO-S-SC	✓		
199920268	Neuse	3020201			490			4/24/2003	7/1/2002	NU-201-WK-S-PW	✓		
						1.75		4/24/2003	7/15/1999	NU-201-JS-W-HW	✓		
200101048	Yadkin	3040201					2.2	5/13/2003	6/21/2003	YD-201-RI-SW-HB	✓		
200120036	Neuse	3020201				0.88		5/22/2003	7/15/1999	NU-201-JS-W-HW	✓		
200100576	Cape Fear	3030004					0.5	5/23/2003	8/13/2001	CF-004-HN-SW-JRC	✓		
200120869, 200121149	Neuse	3020201				0.054		5/29/2003	7/15/1999	NU-201-JS-W-HW	✓		
200031274	Catawba	3050101			5,895			6/3/2003	3/1/2003	Elk Shoals RFP	✓		
						0.58		6/3/2003			×		0.58
200121286	Neuse	3020201					0.5	6/5/2003	7/15/1999	NU-201-JS-W-HW	✓		
199601836	Neuse	3020201			5,172			6/6/2003	7/18/2002	NU-201-WK-S-WF	✓		
						2.2		6/6/2003	7/15/1999	NU-201-JS-W-HW	✓		
200100555, 199403372	White Oak	3030001					1	6/12/2003	8/3/1999	WO-001-ON-W-SC1	✓		
199930472, 200230730	Catawba	3050101			709			6/14/2003	3/1/2003	Elk Shoals RFP	✓		
200120682	Neuse	3020201			332			6/20/2003	11/1/2001	NU-201-DU-S-SC	✓		
2002230574	Yadkin	3040105			292			6/20/2003	1/22/2002	YD-105-MK-S-CA	✓		
Totals			**4476**	**37,273**	**144,239**	**141.36**	**55.61**					**58,956**	**33.95**

*Description of mitigation required. Warm, cool or cold stream restoration is sometimes specified on the Section 404 permit. Non-riparian or riparian restoration is specified for all permits that require wetland mitigation.

[1]As defined in COE/DENR MOU

Appendix B – The N.C. Wetlands Restoration Program 2003 Annual Report to the N.C. Department of Transportation

Department of Environment and Natural Resources and Department of Transportation Memorandum of Understanding

On July 7, 1999, the N.C. Department of Environment and Natural Resources (DENR) and the N.C. Department of Transportation (NCDOT) signed a Memorandum of Understanding (MOU) designed to help address future NCDOT compensatory mitigation needs while protecting and improving water quality and habitat through the restoration of wetlands and streams as well as other activities that restore the biological, chemical and physical integrity of the waters of the state (refer to MOU copy within Appendix B of the 2000 WRP Annual Report). The agreement calls for the NCDOT to pay the DENR Wetlands Trust Fund $2.5 million annually for a period of seven years through 2006. These resources are allocated strictly for the development of Local Watershed Plans (LWP) within cataloging units (CU) where the NCDOT is anticipating compensatory mitigation needs. Pursuant to the 1999 MOU, the NCWRP completed or initiated a total of 15 planning efforts. (Refer to Table B-1 for a summary of related receipts and expenditures.)

Table B-1 Receipts and Expenditures Related to the Memorandum of Understanding with NCDOT

Local Watershed Plan	FY 00-01	FY 01-02	FY 02-03	Total
Broad			9,284	**9,284**
Catawba		57,705	342,290	**399,995**
Lower Yadkin		79,191	53,549	**132,740**
Middle Cape Fear		81,513	369,723	**451,236**
Lower Cape Fear	110,728	287,023	8,912	**406,663**
French Broad	17,543	49,000	3,350	**69,893**
Pasquotank		101,208	106,612	**207,820**
Upper Cape Fear		112,865	419,049	**531,914**
Upper Yadkin		35,137	325,646	**360,783**
Subtotal	**128,271**	**803,642**	**1,638,415**	**2,570,328**
Administrative	167,163	255,351	487,056	**909,570**
Total Expenditures	295,434	1,058,993	2,125,471	**3,479,898**
Total Receipts				**10,000,000**

NCWRP Progress in Development of Local Watershed Plans

Significant progress has been made with Local Watershed Planning initiatives this past fiscal year. From July 1, 2002, through June 30, 2003, the NCWRP completed two Local Watershed Planning efforts (New Hanover County in the Lower Cape Fear River basin and Mud Creek in the French Broad River basin) and continues Local Watershed Planning in 13 other local watersheds within nine CUs across the state. Six of these plans are scheduled for completion by December 2003 and three others are well under way with completion scheduled during 2004. A summary of the status of each Local Watershed Plan is provided in Table B-2.

During FY 01-02, an agreement between NCDOT and the NCWRP was developed describing the CU that each agency is responsible for mitigation within and when those responsibilities are effective. This agreement is included in the FY 01-02 NCWRP Annual Report in Appendix B, which is online at http://h2o.enr.state.nc.us/wrp/publications/2002_WRP_Annual_Report.htm. Since this agreement was established, the NCWRP has assumed responsibility of Cape Fear CU 03030007, effective January 2003, in addition to other CUs the NCWRP already had as its responsibility.

The implementation of LWPs across North Carolina to meet projected NCDOT mitigation needs has generated a number of important benefits at local, state and national levels. Highlights of these benefits include:

- At the ***local*** level, communities and local governments are working with the NCWRP to help identify watershed needs and feasible solutions to address them. Data generated during the planning process is being used to attain grant funds to implement solutions that cannot be implemented with mitigation funds. These efforts enhance and complement restoration projects implemented by the NCWRP to meet anticipated NCDOT mitigation needs. Additionally, the planning process is promoting education and awareness of water quality and habitat issues at a local scale. This is generating community support for project implementation as well as community involvement in watershed solutions.

- At the ***state*** level, Local Watershed Planning has laid the groundwork for the development of an innovative new program, the Ecosystem Enhancement Program (EEP), that will provide all of NCDOT's mitigation needs across the state beginning in January 2005. During this past fiscal year, significant progress on the development of this program was made. Part of this progress is directly related to work of the Watershed Needs Assessment Team which is charged with developing watershed assessment methods to be used by EEP. Their efforts have directly and significantly benefited from the NCWRP's Local Watershed Planning projects.

- ***Nationally***, the experiences generated through the Local Watershed Planning process are adding to a growing database of watershed planning and management examples. In late 2002, the federal government released a National Wetlands Mitigation Action Plan which is available online at: http://www.epa.gov/owow/wetlands/NWMAP122402signed.pdf that called for the integration of compensatory mitigation into a watershed context, among other things. North Carolina anticipates playing a critical role in satisfying this action item given the experience gained through Local Watershed Planning.

The implementation of Local Watershed Plans across North Carolina ... has generated a number of important benefits at local, state and national levels.

Status of Other Provisions Outlined in the Memorandum of Understanding

Beyond the development and implementation of LWPs, other provisions of the MOU include: development of a North Carolina Watershed Restoration Policy Committee, NCDOT involvement in LWP implementation and an NCDOT commitment to minimize impacts to certain types of wetland, stream and riparian habitats. The policy committee has not been established due to the implications of the development of EEP. The NCWRP continues to involve NCDOT in LWP activities.

Another component of the MOU is a commitment by the NCDOT to increase the avoidance and minimization of impacts to high quality resources. As part of the Permit Process Improvement Initiative involving NCDENR, NCDOT, COE and other regulatory agencies, the High Quality Resources Identification Team

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Table B-2 Summary of Current Local Watershed Planning Initiatives

River Basin	8-Digit CU	14-Digit HU	Local Watershed Name	Comments/Status	Completion Year	Contact / Plan Lead
Lower Cape Fear	3030007	03030007140010	Northeast Cape Fear	Completed December 2002	2002	Bonnie Duncan Bonnie.Duncan@ncmail.net (919) 733-5315
Upper Neuse	3020201	03020201060010 03020201050010	Lake Rogers & Ellerbe Creek	Building from EPA grant for the Upper Neuse Basin Association. Anticipated completion at the end of 2003.	2003	George Norris George.Norris@ncmail.net (919) 733-5312
Middle Neuse	3020203	03020203020040	Hominy Swamp Creek	Building off of an EPA grant. Conducted internal GIS analysis of watershed.	2003	Jocelyn Elliott Jocelyn.Elliott@ncmail.net (919) 716-1921
French Broad	6010105	06010105030020 06010105030030 06010105030040	Mud Creek	Completed December 2002.	2002	Kristin Cozza Kristin.Cozza@ncmail.net (704) 364-2733
Upper Cape Fear	3030002	03030002010010 03030002010030	Troublesome and Little Troublesome Creeks	Watershed assessment components nearly complete; stakeholder effort well underway.	2003	Hal Bryson Hal.Bryson@ncmail.net (919) 715-7452
Upper Cape Fear	3030002	03030002060100 03030002060070 03030002060080	Morgan and Little Creeks	Watershed characterization nearly complete and stakeholder process well underway.	2004	Bonnie Duncan Bonnie.Duncan@ncmail.net (919) 733-5315
Middle Cape Fear	3030004	03030004070010 03030004070020	Crane Creek	Assessment complete; stakeholder effort well underway.	2003	Jim Stanfill Jim.Stanfill@ncmail.net (919) 218-6872

Continued from previous page: Table B-2 Summary of Current Local Watershed Planning Initiatives

River Basin	8-Digit CU	14-Digit HU	Local Watershed Name	Comments/Status	Completion Year	Contact / Plan Lead
Middle Cape Fear	3030004	03030004020010 03030004030010 03030004040010	Kenneth Creek / Harris Lake	Watershed characterization in progress; stakeholder team established.	2004	Bonnie Duncan Bonnie.Duncan@ncmail.net (919) 733-5315
Catawba	03050101, 03050103	03050101170010 03050101170020 03050103020020 03050103020030 03050103020040 03050103020050	McDowell, Long, Sugar / Irwin, Little Sugar, McMullen, and McAlpine Creeks	Working with City and County stakeholders. Compilation and analysis of final assessment data is nearly complete.	2003	Jocelyn Elliott Jocelyn.Elliott@ncmail.net (919) 716-1921
Pasquotank	3010205	03010205050010 03010205010020 03010205040010	Pasquotank River	Watershed assessment is nearing completion and stakeholder effort well underway.	2003	Bonnie Duncan Bonnie.Duncan@ncmail.net (919) 733-5315
Lower Yadkin	3040105	03040105010020 03040105010010	Clarke Creek, West Branch Rocky River	Watershed assessment is nearly complete. Working primarily with local resource professionals as stakeholders.	2003	Hal Bryson Hal.Bryson@ncmail.net (919) 715-7452
Lower Yadkin	3040105	03040105010030 03040105010040 03040105010050 03040105020010	Coddle, Mallard, Reedy Creeks and Rocky R.iver	Watershed assessment will build upon information; stakeholder team participating in the Clarke Creek, West Branch and Rocky River Plan. This is considered Phase II of the initial plan.	2005	Hal Bryson Hal.Bryson@ncmail.net (919) 715-7452
Upper Yadkin	3040101	03040101010100 03040101020010 03040101010110	Lewis Fork, Tucker Hole, Warrior Creek	Watershed assessment nearing completion. Working primarily with local resource professionals as stakeholders.	2003	Kristin Cozza Kristin.Cozza@ncmail.net (704) 364-2733
Broad	3050105	03050105070020	Cathey's Creek	Watershed characterization initiated along with public involvement.	2004	Kristin Cozza

Table B-3 Payments Accepted from NCDOT for Compensatory Mitigation

TIP number	401 Cert. Nu.	404 Permit Nu.	River Basin	Catalog Unit	County				Unit	Type	Date Payment Received	Payment Amount
						wetland	stream	buffer				
U-2107	11433	199402926	White Oak	3030001	Onslow	6.0			Acres	Wetland	7/8/2002	$ 144,000.00
U-3403C	11512	200230135	French Broad	6010105	Buncombe	0.8			Acres	Wetland	7/2/2002	$ 18,000.00
R-2547 and R-2641	11689	200220819	Neuse	3020201	Wake		6,254	3,648,150	Sq. Feet	Buffer	7/11/2002	$ 4,283,974.00
R-2214A	11715	200230204	French Broad	6010105	Henderson	2	2,428		Feet	Stream	7/8/2002	$ 339,500.00
B-3199	11809	200220264	Neuse	3020201	Johnston			12,948	Sq. Feet	Buffer	6/26/2002	$ 12,430.08
R-2907	20205	199700175	Neuse	3020201	Wake	5	582	40,964	Sq. Feet	Buffer	10/14/2002	$ 217,058.54
B-3527	20387	200220742, 200220743, 200220744	Neuse	3020201	Wake			1,544	Sq. Feet	Buffer	6/27/2002	$ 1,482.24
SR1128 (no TIP assigned)	20553	200220894, 200220895	Roanoke	3010107	Halifax	0.8			Acres	Wetland	7/26/2002	$ 12,000.00
I-306C	21677	200220949	Neuse	3020201	Durham		1,602	235,709	Sq. Feet	Buffer	6/25/2003	$ 546,680.64
												$ 5,575,125.50

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has been initiated. This team will identify the types and locations of High Quality Resources throughout North Carolina. Their product is expected to be available by the end of 2003. In unison with the LWP approach, this team works to ensure that proactive planning to protect critical areas occurs in advance of road development impacts.

In accordance with the MOU, the NCWRP provides mitigation for NCDOT projects within 12 watersheds. During FY 02-03, nine projects were permitted with the NCWRP assuming the mitigation requirements (Table B-3). The NCWRP will assume responsibility for two additional watersheds during FY 03-04, Pasquotank CU 03010205 and Yadkin CU 03040105.

Appendix C – Statewide Restoration Survey

The N.C. Wetlands Restoration Program (NCWRP) mailed a survey to state, federal and local government agencies as well as non-profit organizations involved in restoration activities in an attempt to determine what restoration efforts were occurring across the state. The purpose of the survey was to collected details about restoration of wetlands and streams that were restored, created, enhanced or preserved during FY 02-03. Sixty organizations were canvassed and responses documented the restoration of 35 acres of wetlands and 1,800 linear feet of stream. The majority of activities reported by respondents were related to preservation.

This appendix lists the organizations who received the survey, a copy of the survey and the results.

Surveyed Organizations

The following organizations received the NCWRP survey on restoration efforts:

1) Wake County Soil and Water Conservation District
2) City of Raleigh Public Works
3) Wake County Cooperative Extension Service
4) The Conservation Fund
5) N.C. Division of Coastal Management
6) North Carolina State University, Water Quality Group
7) N.C. Division of Water Resources
8) The Nature Conservancy
9) N.C. Clean Water Management Trust Fund
10) N.C.Office of Conservation and Community Affairs
11) N.C. Division of Water Quality
12) The Conservation Trust forNorth Carolina
13) N.C.Division of Parks and Recreation
14) The North Carolina Coastal Federation
15) The Neuse River Foundation
16) The Pamlico-Tar River Foundation
17) North Carolina State University Water Resources Research Institute
18) Ducks Unlimited
19) N.C. Coastal Land Trust
20) N.C. Audubon Society
21) U.S. Fish and Wildlife Service
22) Piedmont Land Conservancy
23) U.S. Department of Agriculture
24) N.C. Division of Land Resources
25) Haw River Association
26) Eno River Association
27) RiverLink (French Broad)
28) Foothills Conservancy
29) N.C. Department of Forest Resources
30) Triangle Land Conservancy
31) Pigeon River Fund
32) Carolina Mountain Conservancy
33) Catawba Land Conservancy
34) Blue Ridge Rural Land Trust
35) Tar River Land Conservancy
36) High Country Conservancy
37) U.S. Environmental Protection Agency
38) The New River Foundation
39) The North Carolina Forestry Association
40) North Carolina Earthshare
41) Ellerbe Creek Watershed Association
42) Mecklenburg County Stormwater Services
43) Triangle Region Council of Governments
44) N.C. Fisheries Association
45) Triad Region Council of Governments
46) U.S. Army Corps of Engineers
47) Orange Water and Sewer Authority
48) N.C.Natural Resources and Conservation Service
49) N.C. Division of Soil and Water Conservation
50) Albemarle Resource Conservation and Development
51) N.C. State Cooperative Extension Service
52) N.C. Division of Marine Fisheries
53) N.C. Wildlife Resources Commission
54) N.C. League of Municipalities
55) North Carolina State University Forestry Extension Program
56) Lumber River Conservancy
57) Sandhills Area Land Trust
58) Carolina Power & Light
59) Duke Power
60) Progress Energy

North Carolina Wetland, Stream and Riparian Restoration, Creation, Enhancement and Preservation Survey for Fiscal Year 2002-2003

PROGRAM INFORMATION: *If your organization has more than one program conducting wetland or stream restoration, please fill out separate surveys for each program or make note of which projects are associated with different programs.*

1. **Program Title / Agency:**_____

2. **Program Representative and Contact Information:**

   Name_____

   Address_____

   Phone:_____ Fax:_____

   E-Mail:_____

PROJECT INFORMATION*: Please provide as much of the requested information as possible for each wetland/stream project.*

- Only include NON-COMPENSATORY MITIGATION projects initiated or completed between July 1, 2002 – June 30, 2003.
- List information for each project individually. You will need to make copies of the survey if you initiated or completed more than one project during the last fiscal year.
- Provide details on projects completed before fiscal year 2002 - 2003 by noting the appropriate fiscal year for each project on your survey.

1. **Project Name / Number:**_____
   (assigned by your program or organization)

2. **Purpose of the Project:** *general information about your project's purpose (i.e. to improve water quality, to reopen closed shellfish waters, improve fisheries and wildlife habitat, etc.).*

   _____

   _____

   _____

3. **Project Completion Date or Target Date of Completion:** *(Month/Year) Include the percentage of your project that was completed by June 30, 2003, if you provided a targeted project completion date.*

   Completion or Targeted Completion Date: _____

   % of Project Completed as of June 30, 2003: _____

4. **Project Funding Source(s) / Partners Involved:** *List any programs or granting entities that are funding your project and any other partners involved with your project.*

   _____

   _____

   _____

5. **Location Reference(s):** *The River basin, subbasin, county, 14-digit hydrologic unit – or whatever geographical unit your program uses for referencing projects.*

   River Basin:

____Broad	____Little Tennessee	____Savannah
____Cape Fear	____Lumber	____Tar-Pamlico
____Catawba	____Neuse	____Watauga
____Chowan	____New	____White Oak
____Hiwassee	____Roanoke	____Pasquotank
____French Broad	____Yadkin-Pee Dee	

   Subbasin (if known):

   Subbasin Number: _____

   USGS 14-Digit Hydrologic Unit: _____

   County:_____ Nearest Town:_____

6. **Type of legal instrument used to protect restored/protected project properties:** *If you are using conservation easements, please indicate the term length (i.e. 10, 15, 30 years or perpetuity).*

____Conservation Easement (number of years_____or permanent).

____Purchase Fee-Simple

____Contract (number of years_____)

7. **Project Activities:** *Review the definitions below, and then complete the table by placing a check next to the activities that apply to this project. Specify the number of acres / feet where appropriate.*

Wetland Restoration: Re-establish wetland hydrology and vegetation in an area where it previously existed.

Wetland Enhancement: Increase one or more of the functions of an existing wetland by manipulating vegetation or hydrology.

Wetland Creation: Establishing wetland hydrology, vegetation and soils in an area where wetlands did not exist in the recent past.

Stream Restoration: The process of converting an unstable, altered or degraded stream corridor, including adjacent riparian zone and floodprone areas to its natural or referenced, stable conditions considering recent and future watershed conditions. This process also includes restoring the geomorphic dimension, pattern, and profile as well as biological and chemical integrity, including transport of water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium.

Stream Enhancement: Protecting and/or enhancing stream stability and functions by establishing vegetated buffers; increasing buffer width, and/or stabilizing streambanks using bioengineering techniques.

Wetlands and Stream Segment Preservation: Protecting wetlands and stream segments by purchasing, donating or conveying a conservation easement to an appropriate government or non-profit agency to manage.

Nonwetland Riparian Buffer Restoration: Establishing a vegetated buffer (minimum 25 ft. width) and maximizing sheet flow through buffer by receiving concentrated flow areas.

Nonwetland Riparian Buffer Enhancement: Increasing width of existing vegetated buffer and maximizing sheet flow through buffer by reducing concentrated flow amounts.

Nonwetland Riparian Buffer Preservation: Preserving existing forested buffers (minimum 25 ft. width).

Wetland

Please Check	Specify Acres
_____Restoration	_____Acres
_____Enhancement	_____Acres
_____Creation	_____Acres
_____Preservation	_____Acres

Stream

Please Check	Specify Feet
_____Restoration	_____Feet
_____Enhancement	_____Feet
_____Creation	_____Feet
_____Preservation	_____Feet

Non-Wetland Riparian Buffers

Please Check	Specify Square Feet	or Acres
_____Restoration	_____Sq. Feet	_____Acres
_____Enhancement	_____Sq. Feet	_____Acres
_____Creation	_____Sq. Feet	_____Acres
_____Preservation	_____Sq. Feet	_____Acres

Send completed surveys, by <u>September 12, 2003</u>, to:

NC Wetlands Restoration Program
1619 Mail Service Center
Raleigh, NC 27699-1619
Or Fax: (919) 733-5321**.**

Questions? Call (919) 733-5312 or
send e-mail to George.Norris@ncmail.net.

Table C-1 2003 Results of Restoration Survey

Project Name	Program/Agency Name	River Basin	Stream Length -- feet			Wetlands - acres				Buffers - acres	
			R	E	P	R	E	P	C	R	P
Kitty Hawk Wocds	Division of Coastal Management	Pasquotank						24			
Buxton Woods	Division of Coastal Management	Pasquotank						6			
Flowers Tract	N.C. Coastal Land Trust	Tar-Pamlico						120			
Petiford Creek	N.C. Coastal Land Trust	White Oak			15,000			150			50
Ward Farm	N.C. Coastal Land Trust	Cape Fear			15,000			177			4
Gaul Tract	N.C. Coastal Land Trust	Tar-Pamlico			6,000			80			20
Henry Farm	N.C. Coastal Land Trust	Cape Fear			14,000			100			15
Morgan Swamp	N.C. Coastal Land Trust	Neuse			2,100			19			9.6
Brackett Bluff	Catawba Lands Conservancy	Yadkin			2,400						
Cook Preserve	Catawba Lands Conservancy	Catawba			1,350						
Pharr West	Catawba Lands Conservancy	Catawba			2,400						
Catawba Creek	Catawba Lands Conservancy	Catawba			5,000						
Legacy Shares	Catawba Lands Conservancy	Catawba			4,300						
Sandy Creek	Piedmont Land Conservancy	Cape Fear									144

Project Type: R -- Restoration; E -- Enhancement; P -- Preservation; C -- Creation

Table C-1 Continued next page

Continued from previous page: Table C-1 2003 Results of Restoration Survey

Project Name	Program/Agency Name	River Basin	Stream Length -- feet			Wetlands - acres				Buffers - acres	
			R	E	P	R	E	P	C	R	P
Pacolet River	Pacolet Are Conservancy	Broad									457
Dry Creek	Chapel Hill	Cape Fear									105
Guinea Mill	Currituck County	Pasquotank				35					40
Salt Works	Ducks Unlimited	White Oak									444
Tyrell	Ducks Unlimited	Pasquotank									700
Pamlico County	Ducks Unlimited	Neuse									354
Waccamaw	N.C. Wildlife Resources	Lumber									2530
Johnson tract	N.C. Wildlife Resources	Roanoke									71
Beck Tract	N.C. Wildlife Resources	White Oak									3598
Todd Greenway	N.C. Natural Resources and Conservation Services	New									44
Bear Garden	Nature Conservancy	Cape Fear									14391
Jennette	N.C. Aquarium Society	Pasquotank									5
Goose Creek	N.C. Wildlife Resources	Tar-Pamlico									303
Mulford Creek	N.C. Forest Resources	Cape Fear									777
Town Creek	N.C. Coastal Land Trust	Cape Fear									250

Project Type: R -- Restoration; E -- Enhancement; P -- Preservation; C -- Creation

Table C-1 Continued next page

Continued from previous page: Table C-1 2003 Results of Restoration Survey

Project Name	Program/Agency Name	River Basin	Stream Length -- feet			Wetlands - acres				Buffers - acres	
			R	E	P	R	E	P	C	R	P
Linville George	Conservation Trust Fund of North Carolina	Catawba									314
Lions Watch Creek	Roanoke Rapids	Roanoke	1,400								2
Cedar Creek	Wake County Parks	Neuse									112
Roaring Creek	Southern Appalachian Highland Conservancy	French Broad									184
Dan River	Piedmont Land Conservancy	Roanoke									19
Second Creek	N.C. Wildlife Resources	Pasquotank									5401
Eno River State Park	N.C. Divisin of Parks and Recreation	Neuse									71
Roanoke Island Greenway	N.C. Wildlife Resources	Pasquotank									38
Cooleemee	Pilot View Resource, Conservation & Development	Yadkin									93
Shocco Creek	N.C. Wildlife Resources	Tar-Pamlico									1623
Town Creek	N.C. Coastal Land Trust	Cape Fear									580
Fishing Creek	Nature Conservancy	Tar-Pamlico									201
Wilson Creek	Caldwell County	Catawba			2,200						4
Big Pine Creek	Blue Ridge Parkway Foundation	New	400								
Alligator River	N.C. Wildlife Resources	Tar-Pamlico									8848
Totals			**1,800**	**0.00**	**69,750.00**	**35.00**	**0.00**	**676.00**	**0.00**	**0.00**	**41,801.60**

Project Type: R -- Restoration; E -- Enhancement; P -- Preservation; C -- Creation

Appendix D — Payments to the Wetlands Trust Fund

Table D-1 Trust Funds

Payment Date	Applicant	404 Permit Nu.	401 Certification Nu.	Stream (linear feet)	Non Riparian Wetland (acres)	Riparian Wetland (acres)	Buffer (square feet)	Payment Amount
6/20/2002	UNC-Charlottee (College of Nursing)	2002230574	020320	292				$ 36,500
6/26/2002	Beddington Creek Bridge	200220264	011809				12,948	$ 12,430
6/27/2002	Toscana Road, Pulte Homes	200120974	020058	302			50,312	$ 86,050
6/27/2002	DOT Lower Barton's		020387				1,544	$ 1,482
7/2/2002	Ammo Holding Area	200100296	010942			3.7		$ 90,000
7/2/2002	Sardis Road	200230135	011512			0.75		$ 18,000
7/8/2002	Jacksonville Bypass	199402926	011433			6.00		$ 144,000
7/8/2002	US 25 widening	200230204	011715	2,428		1.5		$ 339,500
7/8/2002	Ashley Downs, Olive Chapel	199700923, 199700924, 199700925	970588			1.76		$ 48,000
7/11/2002	NC Dept of Transportation	200220819	011689	6,254			3,648,150	$ 4,283,974
7/11/2002	Village at Beacon Hill, Marsh Creek		020171				1,350	$ 1,296
7/22/2002	Caldwell Community College	199930123	010087			1.14		$ 30,000
7/26/2002	Sand Pit Road	200220894, 200220895	020553		0.8			$ 12,000
7/30/2002	Wyntree Subdivision		020416				100	$ 96
8/7/2002	Homestead Townhouses		020378	300				$ 37,500
8/9/2002	Briarmeade		020740	298				$ 37,250
8/13/2002	Royal Homes Fashion	200120825	011126			0.62		$ 18,000
8/20/2002	Brogdnen Water District		010031				12,600	$ 12,096
8/21/2002	Taxiway L. Extension RDU Airport		020897				60,812	$ 58,380
9/2/2002	Johnsdale Road Sanitary Sewer Extension		020419				20,496	$ 19,676

Table D-1 Continued next page

Continued from previous page: Table D-1 Trust Funds

Payment Date	Applicant	404 Permit Nu.	401 Certification Nu.	Stream (linear feet)	Non Riparian Wetland (acres)	Riparian Wetland (acres)	Buffer (square feet)	Payment Amount
9/12/2002	Highwoods Properties	200021887		189		0.11		$ 6,000
9/12/2002	Buffalo Road Widening Phase I	200221364	001386	204			15,555	$ 40,433
9/18/2002	Werner buffer	200130682	010564				5,904	$ 5,668
9/18/2002	Patrick Road Extension	200200091	011590			0.48		$ 12,000
9/24/2002	Appleton Way	200200442	021055			0.2		$ 6,000
9/24/2002	Burlingrton-Alamance Airport Authority	200220906	021307	285		0.82		$ 59,625
9/24/2002	Lake Boone Trail Widening Mitigation		020562				3,918	$ 3,761
10/9/2002	Pointe Sommerset Subdivision	200100555	950207		0.24			$ 3,000
10/14/2002	DOT NC55 Sunset Lake	199700175	020205	582	2.52	2.76	40,946	$ 217,059
10/14/2002	Z-Max Industrial Park	200231208	021276	450				$ 56,250
10/30/2002	None: Check for Richland Creek Restoration							$ 65,987
11/19/2002	None: Check for Rock Hill Road							$ 9,000
11/19/2002	Glade Park Road Extension		020767				31,401	$ 30,145
11/19/2002	Glade Park Road Extension	200221113	020767	340				$ 42,500
11/26/2002	Ingles Market	200130682	010654	380				$ 47,500
11/26/2002	Zimmer parcels - Monkey Junciton	200200010	011572		0.376			$ 6,000
11/26/2002	Rowland Business Park	200221185	020243	167			14,884	$ 35,163
11/26/2002	Zimmer Parcels & Monkey Junction	200200438	021165			0.489		$ 6,000
11/26/2002	Dixie River Road	200231321	021410	375				$ 46,875
12/9/2002	Sunshine on Sound Cottage, Soundshores		021019				204	$ 196
12/9/2002	Chastain II	200221320, 200221321, 200221322	021049	574			2,700	$ 38,467

Table D-1 Continued next page

Continued from previous page: Table D-1 Trust Funds

Payment Date	Applicant	404 Permit Nu.	401 Certification Nu.	Stream (linear feet)	Non Riparian Wetland (acres)	Riparian Wetland (acres)	Buffer (square feet)	Payment Amount
12/9/2002	Nevarom Office Plaza		990711				57,600	$ 55,296
12/18/2002	JR Lewis Access Road	200200945	021538			0.33		$ 6,000
12/31/2002	Monteith Park Road Residential Community	200230878, 200230879	020769	255				$ 31,875
1/2/2003	None: Check is for 3M property easement maintenance							$ 20,760
1/8/2003	Friendship Missionary Baptist Church Phase		021519	235				$ 29,375
1/13/2003	Covington Meadows	200221019, 200221020	020717				11,418	$ 10,961
1/13/2003	Eastfield Village & Prosperity Village Connector	200231309, 200230752	021411	470		1.72		$ 100,750
1/13/2003	Moore County Airport Sewer	200200731			0.3			$ 6,000
1/21/2003	2416 Turtle Bay Drive		021531				408	$ 392
1/31/2003	Windcrest Farms PUD	200320423	020536	259				$ 32,375
2/5/2003	Villages of Seven Eagles	200231320	021430	275				$ 34,375
2/12/2003	Riverbend	200330098	021671	296				$ 37,000
2/20/2003	Waverly Point Phase IV & V	200221358 (noMitReq)	021182	192				$ 24,000
2/26/2003	Oyster Creek Subdivision, Lot 40		030102				1,080	$ 1,037
2/27/2003	Strickland Road Widening	200120271, 200221123	020438	166		0.88	92,417	$ 133,470
2/27/2003	Dove Landing	200220875	020577	215				$ 26,875
3/10/2003	Apex Peakway at Bradley Terrace	200320338	010385	170				$ 21,250
3/11/2003	Greenville Utilities (Westside sewer)	200310322	030212				61,830	$ 59,357
3/21/2003	Sunset Forest, LLC	200320410	990026	288				$ 36,000
3/21/2003	Turtle Creek, Lot 17	200300439			0.15			$ 3,000

Table D-1 Continued next page

Continued from previous page: Table D-1 Trust Funds

Payment Date	Applicant	404 Permit Nu.	401 Certification Nu.	Stream (linear feet)	Non Riparian Wetland (acres)	Riparian Wetland (acres)	Buffer (square feet)	Payment Amount
3/25/2003	Wayne Stone Property		030050				2,390	$ 2,294
3/25/2003	Keels Residence	200201284			0.128			$ 3,000
4/5/2003	Meridian Parkway Business Campus	200120507				0.22		$ 12,000
4/7/2003	Onslow County Landfill Expansion	200101147	011215		9.8			$ 120,000
4/30/2003	Runnymede Road		010407				7,470	$ 7,171
5/2/2003	Princeton Manor Subdivision	202120766	021409			0.45		$ 24,000
5/7/2003	Wastewater Collection Lines (Kings Grant III)	200201110	020290			1		$ 24,000
5/7/2003	Wastewater Collection Lines (Kings Grant III)	200200569	021164			0.75		$ 18,000
5/7/2003	Wastewater Collection Line (Brookfield)	200200390	030210			1		$ 24,000
5/7/2003	Fairmont Wastewater Treatment Plant	199801874	990872			1.6		$ 38,400
5/12/2003	Henson Forest Subdivision	200221454	020866	700				$ 87,500
5/16/2003	Still Meadow Village	200200250	020018		1.62			$ 21,000
5/23/2003	Versage Residential Community	200231120	021099	185				$ 23,125
5/28/2003	Glenkirk PUD	200320144 200320793	030120				34,751	$ 33,361
6/5/2003	Morganton & Clifdale Road	200201323	021388			1		$ 24,000
6/12/2003	Canaway Subdivision	200330434	030265			0.48		$ 12,000
6/17/2003	Morgan Wood Subdivision	200300278	030385			0.58		$ 18,000
6/24/2003	Green Level/Durham Road	200320621	030330	480				$ 96,000
6/25/2003	I-85 Widening	200220949	021677	1,602			235,709	$ 546,681
	SUM: BUFFER, STREAM, WETLANDS			**19,208**	**15.934**	**30.339**	**4,428,897**	**$ 7,828,539**

Table D-2 Nitrogen Offset Payments Accepted During FY 2002 - 2003

Payment Date	Payment Amount	Municipality	Applicant
6/20/2002	$38,478.00	City of Raleigh	Braefield Subdivision
6/27/2002	$8,343.65	Town of Cary	Macgregor Ridge
6/27/2002	$4,480.74	City of Raleigh	Allen Kelly Co.
7/2/2002	$218.40	City of Durham	Currin Patterson Retail Store (Roxboro Road)
7/9/2002	$38,909.05	City of Durham	Brassfield
7/9/2002	$8,749.00	City of Raleigh	Morrisette Paper
7/9/2002	$4,636.59	City of New Bern	New Bern Church of God
7/12/2002	$2,944.32	City of Durham	Emmanuel Pentecostal Temple
7/12/2002	$15,630.00	City of Durham	Teer Asphalt Plant Modifications
7/15/2002	$1,786.34	City of Wilson	Chili's (Westpoint Subdivision)
7/15/2002	$132.00	Johnston County	United Christians Baptist Church
7/15/2002	$23,742.55	Town of Garner	White Oak Crossing
7/17/2002	$10,204.33	Town of Cary	Tryon Office Center
7/17/2002	$28,553.94	City of Raleigh	Chastain II
7/17/2002	$2,708.71	City of Raleigh	Vantage Pointe
7/17/2002	$235.62	City of Goldsboro	Laughlin Poultry Farms
7/22/2002	$5,920.20	City of Durham	Alexander Crossing
7/22/2002	$2,320.75	City of Raleigh	Achievement School
7/24/2002	$2,570.83	City of Raleigh	Alvin Moore (Tran 44519)
7/25/2002	$8,322.60	City of Raleigh	Avallon
7/25/2002	$4,948.68	City of Raleigh	Centennial Village
7/25/2002	$1,764.18	City of Raleigh	Covenant Church of Raleigh
7/30/2002	$2,258.03	Town of Garner	North State Bank
7/30/2002	$540.54	City of New Bern	Eastern Nephrology
7/30/2002	$10,596.96	City of Raleigh	Fred Anderson Toyota
7/30/2002	$2,161.00	City of Raleigh	Mercury Street Warehouse
8/6/2002	$703.23	City of Goldsboro	Bundy Dental Office
8/6/2002	$2,306.58	City of Raleigh	Magnolia Glen
8/7/2002	$71.00	City of Raleigh	Mercury Street Warehouse
8/7/2002	$564.14	City of Raleigh	North Raleigh Presbyterian Church
8/15/2002	$4,482.89	Town of Garner	White Oak Business Park
8/15/2002	$2,875.00	City of Havelock	Havelock High School
8/15/2002	$2,781.32	City of Raleigh	Race Trac Petroleum
8/20/2002	$1,058.64	City of Raleigh	Caraleigh Mills
8/20/2002	$778.78	City of Kinston	East Carolina Mortgage
8/20/2002	$3,778.93	City of Raleigh	Thomas J. Wilson Office Building
8/20/2002	$935.85	City of Durham	UDI Business & Training Center
8/21/2002	$1,153.00	City of Durham	Cole Mill Road Church of Christ
8/26/2002	$25,613.00	City of Raleigh	Grace Christian School
8/26/2002	$343.20	City of Raleigh	Curtis Drive Subdivision

Table D-2 Continued next page

Continued from previous page: Table D-2 Nitrogen Offset Payments Accepted During FY 2002 - 2003

Payment Date	Payment Amount	Municipality	Applicant
8/30/2002	$1,844.70	City of Raleigh	Social Security Building
8/30/2002	$417.19	City of Raleigh	Pointe View Townes
9/2/2002	$4,234.76	City of Goldsboro	Head Start Program
9/4/2002	$412.99	City of Raleigh	Forrestal Drive Subdivision
9/4/2002	$2,659.71	City of Raleigh	Commerce Park Lot 1
9/9/2002	$1,741.74	City of Goldsboro	Affordable Self-Storage
9/9/2002	$2,931.72	City of Raleigh	Ivy Hills Elderly Apartments
9/9/2002	$1,198.30	City of Durham	Hillsborough Road Commercial
9/9/2002	$1,515.53	City of Durham	Durham Urology
9/10/2002	$2,468.47	City of Raleigh	Eckerd Store # 3924
9/12/2002	$1,113.09	Town of Cary	Western Wake Expansion
9/18/2002	$1,701.81	City of Raleigh	New Bethel Church
9/20/2002	$15,977.94	City of Goldsboro	New Hope Plaza
9/20/2003	$6,819.78	City of Wilson	Charleston Commercial Park
9/20/2002	$6,061.52	City of Raleigh	Friendship Baptist Church
9/24/2002	$32,705.11	City of Durham	Alexander Village at Briar Creek
9/25/2002	$6,076.03	Town of Garner	Sigma Electric
9/30/2002	$471.68	City of Wilson	Employment Security Commission
9/30/2002	$4,971.78	City of Goldsboro	Goldsboro-Raleigh District Churches of Christ
9/30/2002	$1,194.14	City of Wendell	Revised Stormwater Management
9/30/2002	$2,349.44	Town of Garner	Alexander Properties
10/8/2002	$504.50	City of Raleigh	Singletary Office Building
10/8/2002	$588.38	Town of Garner	North State Bank
10/9/2002	$11,380.00	City of Raleigh	Bennington Subdivision
10/9/2002	$4,778.00	City of Durham	North Pointe Drive
10/15/2002	**$6,322.37**	**City of Raleigh**	**Cardinal Self Storage $6,322.37 refunded**
10/15/2002	$109,848.55	City of Raleigh	Poyner Place
10/17/2002	$538.53	City of Raleigh	Milner Memorial Presbyterian Church
10/17/2002	$275.88	City of Raleigh	Capital Car Wash
10/17/2002	$29,698.02	Town of Cary	St. Charles Place
10/17/2002	$5,311.02	Johnston County	Smithfield Elementary School
10/17/2002	$2,705.41	City of Raleigh	Lennox Chase Apartments
10/22/2002	$10,267.88	City of Raleigh	Open Door Baptist
10/22/2002	$379.50	City of Raleigh	Alvin Moore
10/22/2002	$5,435.10	Town of Smithfield	Smith-Sawyer Project
10/22/2002	$473.88	City of Durham	Lane Hoover Equipment Shop
10/28/2002	$1,857.84	City of Raleigh	North raleigh Church of the Nazarene
10/28/2002	$554.40	City of Raleigh	Groves Edge Subdivision
10/28/2002	$945.53	City of Raleigh	New Bookstore
10/28/2002	$1,127.12	City of Raleigh	Bellaire Townes
10/30/2002	$2,109.36	City of Havelock	Legacy Housing Project
10/30/2002	$2,112.00	City of Havelock	Taco Bell Building

Table D-2 Continued next page

Continued from previous page: Table D-2 Nitrogen Offset Payments Accepted During FY 2002 - 2003

Payment Date	Payment Amount	Municipality	Applicant
10/30/2002	$12,517.56	City of Goldsboro	Packing Center Expansion
11/6/2002	$22.57	County of Wayne	Davis Street extension
11/6/2002	$346.37	County of Wayne	Thourghfare Fire Department
11/6/2002	$2,112.33	County of Wayne	Ellis Harrell Mini Storage
11/6/2002	$114.83	County of Wayne	Apartment Building
11/6/2002	$530.24	County of Wayne	Latino Park Mobile Home Park
11/7/2002	$2,310.66	Johnston County	Patriots Point Phase I
11/7/2002	$13,196.80	City of Durham	Chewning Middle School
11/19/2002	$28,857.84	City of Raleigh	Quarry Pointe
11/19/2002	$8,372.02	Town of Garner	White Oak Phase III Rex Wellness Center
11/19/2002	$4,308.00	City of Raleigh	Millbrook Office Park
11/19/2002	$664.32	City fo Raleigh	St. Mark's Episcopal Church
11/19/2002	$382.24	City of Raleigh	Cardinal Gibbons
11/19/2002	$392.70	City of Raleigh	North Ridge Plaza
11/19/2002	$5,992.00	City of Raleigh	Brook Forest
11/19/2002	$1,531.39	City of Wilson	Eagles Car Wash
11/26/2002	$1,862.19	Town of Cary	BJ's Gas Station
11/26/2002	$1,552.30	City of Durham	Imperial Cornerj's Bojangles
11/26/2002	$4,852.85	City of Raleigh	C & F Food Distribution
11/26/2002	12/1/1905	City of Durham	Homestead Heights Townhomes
11/26/2002	$3,481.53	City of Raleigh	Brighton Subdivision
11/27/2002	$3,130.71	City of Wilson	Mt. Calvary Church Phase I
12/2/2002	$10,302.60	City of Greensboro	Page Road Apartments
12/9/2002	$259.54	City of Raleigh	Cardinal Gibbons
12/9/2002	$9,965.67	City of Raleigh	Villagegreen Apartments
12/9/2002	$130.85	City of Raleigh	Caraleigh
12/9/2002	$3,242.51	Town of Garner	Sigma Electric Modication
12/9/2002	$339.90	City of Durham	Triangle Day School
12/12/2002	$20,325.43	Town of Cary	Westwood Baptist Church
12/12/2002	$1,017.46	County of Wayne	Water Treatment Plant
12/12/2002	$841.50	County of Wayne	Brent King Insurance
12/12/2002	$1,773.16	County of Wayne	All-Pro Plumbing
12/12/2002	$1,091.38	County of Wayne	Daniels & Daniels Construction
12/12/2002	$1,202.85	County of Wayne	Professional Turf
12/12/2002	$466.02	City of Goldsboro	Wages Head Start
12/12/2002	$6,212.25	Town of Cary	SRI Venkateswara Temple
12/16/2002	$1,536.05	City of Raleigh	Conley & Gordon
12/16/2002	$2,664.09	City of Raleigh	Ashworth Estates - Phase I
12/16/2002	$9,400.02	City of Raleigh	Ashworth Estates - Camden Park

Table D-2 Continued next page

Continued from previous page: Table D-2 Nitrogen Offset Payments Accepted During FY 2002 - 2003

Payment Date	Payment Amount	Municipality	Applicant
12/18/2002	$2,753.49	City fo Goldsboro	State Employee's Credit Union
12/18/2002	$12,239.37	City of Raleigh	Crescent Ridge Townehomes
12/18/2002	$3,831.30	City of Durham	Coastal Federal Credit Union
12/18/2002	$2,871.00	Town of Cary	Coastal Federal Credit Union
12/18/2002	$9,881.85	City of Raleigh	Southtech Office Building
12/18/2002	$8,400.48	City of Raleigh	Avallon Subdivision
12/27/2002	$4,542.02	Town of Smithfield	Johnston Christian Academy
12/27/2002	$1,743.45	City of Goldsboro	Royall Commerce Park
12/27/2002	$2,813.25	City of Raleigh	Creedmoor Office Buidling
1/2/2003	$6,199.00	City of Raleigh	Long Lake Tract 10
1/6/2003	$1,912.00	City of New Bern	Craven Regional Medical Center
1/7/2003	$8,834.86	City of Raleigh	Walnut Creek Business Park, Phase 3
1/7/2003	$2,847.37	Johnston County	Glen Road Townhomes
1/7/2003	$5,717.25	Johnston County	Lancaster Downs Office Park
1/9/2003	$1,669.00	City of Raleigh	E.G. Properties
1/9/2003	$10,571.45	City of Raleigh	Strickland Corners
1/9/2003	$337.59	City of Raleigh	Gethsemane Seventh Day Adventist
1/9/2003	$2,575.00	City of Raleigh	South Central Church of Christ
1/9/2003	$3,182.20	Town of Smithfield	KS Bank, Brightleaf Boulevard
1/13/2003	$3,124.34	Town of Cary	The Pantry
1/16/2003	$1,919.80	City of Raleigh	Briar Stream
1/16/2003	$2,346.43	City of Goldsboro	Huntington Manor
1/17/2003	$1,687.95	City of Wilson	US Bankruptcy Court Addition
1/22/2003	$112.00	City of Raleigh	Long Lake Tract 10
1/22/2003	$34,865.55	City of Durham	NC 98 & Sherren Road Development
1/22/2003	$1,307.95	City of Raleigh	Wake County Nursing Center
1/22/2003	$11,024.64	Town of Cary	Carpenter Elementary School
1/27/2003	$778.80	City of Raleigh	909 Spring Forest Road
1/27/2003	$8,778.50	City of Raleigh	Food Runners
1/29/2003	$1,760.00	City of Durham	Durham County Animal Shelter
1/29/2003	$1,536.00	City of Raleigh	North Ridge Plaza 2
1/29/2003	$3,465.76	City of Raleigh	Royal Pines Apartments
1/31/2003	$569.94	Town of Garner	Alexander Property Modification
2/5/2003	$2,055.47	City of Durham	DATA Operations Facility
2/5/2003	$2,440.02	Orange County	Sports Endeavors, Inc.
2/17/2003	$1,766.69	City of Raleigh	Hollander Place
2/20/2003	$4,513.70	Town of Cary	Kingswood Elementary School

Table D-2 Continued next page

Continued from previous page: Table D-2 Nitrogen Offset Payments Accepted During FY 2002 - 2003

Payment Date	Payment Amount	Municipality	Applicant
2/20/2003	$2,541.23	City of Raleigh	Gray Funeral Home
2/20/2003	$2,092.00	City of Raleigh	Lot 5 Tryon Industrial Park
2/25/2003	$5,197.50	City of Raleigh	Habitat for Humanity - Rose Lane
2/25/2003	$1,777.45	City of Raleigh	Automotive Retail Shop
2/25/2003	$1,262.75	City of Raleigh	Pearl Ridge # 3
2/25/2003	$2,009.70	City of Durham	Jerry's Custom Paint & Body
2/27/2003	$2,081.00	City of Durham	Durham Coca Cola Bottling Company
2/27/2003	$3,489.55	City of Durham	Heartland Durham Page Pointe
3/3/2003	$6,200.09	City of Raleigh	Oaks at Brier Creek
3/3/2003	$4,649.04	City of Raleigh	Meadows at Brier Creek
3/4/2003	$3,108.60	City of Raleigh	State Employee's Credit Union
3/4/2003	$5,554.56	City of Durham	State Employee's Credit Union
3/5/2003	$7,741.01	City of Raleigh	Brentmoor Apartments
3/5/2003	$6,467.59	City of Raleigh	Professional Park at Pleasant Valley
3/5/2003	$2,619.94	City of Raleigh	Globe Associates
3/7/2003	$4,581.92	City of Raleigh	Ebenezer United Methodist Church
3/10/2003	$145.00	City of Durham	NC School of Science & Mathematics
3/10/2003	$10,654.34	Town of Smithfield	Industrial Technology Building, JCC
3/14/2003	$1,152.36	City of Durham	Windemere Ridge in Durham
3/14/2003	$4,181.76	City of Raleigh	Bethel House of God
3/17/2003	$3,535.77	Town of Cary	East Cary Middle School
3/21/2003	$162.15	City of Raleigh	Eckerd Store
3/21/2003	$2,104.57	City of Raleigh	Pearl Ridge #3
3/25/2003	$2,159.78	City of Goldsboro	Hurry Clean Car Wash
3/25/2003	$1,650.00	City of Raleigh	Cliffs at Grove Barton
3/28/2003	$4,409.46	Town of Cary	Glenkirk PHase I
3/31/2003	$18,801.46	City of Raleigh	Triangle Town Center, Phase 2
3/31/2003	$2,327.45	City of Wilson	Morgan's Ridge II
4/1/2003	$1,680.49	City of Goldsboro	Millers Chapel AME Zion Church
4/8/2003	$4,887.43	City of Raleigh	Lakes Estates Subdivision
4/8/2003	$439.16	City of Durham	Center of My Joy Elder Care Facility
4/8/2003	$402.73	City of Durham	McDonalds Durham Roxboro Road
4/9/2003	$1,989.82	City of Raleigh	Stonehaven
4/9/2003	$26,190.50	City of Raleigh	Dutchman Creek Subdivision
4/14/2003	$760.52	City of Raleigh	Leyland Heights
4/16/2003	$4,330.20	City of Raleigh	Thornton Commons Townhomes
4/17/2003	$4,728.90	Town of Garner	SPCA
4/21/2003	$4,081.98	City of Wilson	Wilson County ABC Board

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Continued from previous page: Table D-2 Nitrogen Offset Payments Accepted During FY 2002 - 2003

Payment Date	Payment Amount	Municipality	Applicant
4/21/2003	$2,034.54	City of Raleigh	Hodges Creek Apartments
4/22/2003	$2,095.50	Town of Garner	Apex Steel
4/24/2003	$225.74	City of Durham	Imperial Corners Bojangles
4/24/2003	$7,106.22	City of Goldsboro	North Carolina Warehousing
4/24/2003	$6,271.08	City of Raleigh	Dunn/Boatwright Subdivision
4/24/2003	$1,764.37	City of Raleigh	Savannah Ridge Subdivision
4/28/2003	$268.42	Town of Smithfield	Spring Branch Corners
4/29/2003	$7,191.00	City of Durham	Amberlynn Valley Townhomes
5/1/2003	$11,381.30	City of Raleigh	Weslyn Subdivision
5/5/2003	$5,054.94	City of Wilson	Parkwood Village
5/6/2003	$2,031.67	Wake County	Calvary Baptist Temple
5/7/2003	$8,019.00	City of Raleigh	Watkins Motor Lines
5/9/2003	$1,964.41	City of Raleigh	Trademark 82
5/12/2003	$3,410.75	City of Goldsboro	Short Stop Convenience Store #51
5/12/2003	$2,593.44	City of Raleigh	Hale High School
5/13/2003	$1,279.55	City of Kinston	Wendy's Development (SP03-002)
5/14/2003	$5,989.50	City of Raleigh	State Employee's Credit Union
5/14/2003	$2,191.53	City of Goldsboro	Carolina Nephrology
5/14/2003	$1,704.78	City of New Bern	Holton Dental Clinic
5/16/2003	$1,382.30	City of Kinston	Britthaven of Kinston
5/21/2003	$1,318.68	Wake County	Midway Baptist Church
5/21/2003	$446.00	City of Durham	Kyrian & Kyrain Enterprises, Inc.
5/21/2003	$3,187.80	City of Raleigh	Windsor Springs
5/21/2003	$5,689.58	City of Raleigh	Rex View Medical
5/22/2003	$4,823.28	City of Durham	Clinical Trial Services warehouse addition
5/23/2003	$1,144.44	Wake County	Midway Baptist Church
5/28/2003	$11,967.32	City of Raleigh	Idlewood Village
5/30/2003	$1,587.96	City of Kinston	Kinston Pulmonary Associates, PA
5/30/2003	$1,340.00	City of Durham	Tripple S Rentals
6/4/2003	$1,017.32	City of Raleigh	Nancy F. Baker
6/5/2003	$4,220.00	City of Raleigh	Trinity Baptist Church
6/5/2003	$2,576.64	Durham County	Kemp's Seafood House
6/6/2003	$5,554.56	City of Raleigh	Walgreen's at 64 and New Hope
6/9/2003	$462.00	City of Raleigh	Kent Ridge Townhomes
6/10/2003	$1,584.00	City of Raleigh	Pridgen Auto
6/11/2003	$4,270.60	City of Raleigh	Masons' Landscapes
6/17/2003	$3,445.49	City of Raleigh	World Trade Center Park
6/20/2003	$1,168.10	Orange County	St. Mary's School
6/20/2003	$4,781.70	City of Raleigh	Pet Dairy Distribution
6/20/2003	$3,179.88	City of Kinston	Ruby Tuesday
Total FY 02-03	**$1,220,999**		

Appendix E — Property Inventory

Property Name	County	River Basin	Linear Feet	Acres Surveyed	Type of Acquisition	Acquisition Date
Basket Creek-Wesleyan Boulevard	Nash	Tar-Pamlico		41.5	Easement	5/14/1997
Holloman Wetland	Greene	Neuse		27.5	Easement	10/31/1997
Buckhead Subdivision	Cumberland	Cape Fear		4.56	Easement	12/1/1998
Chavis Park	Wake	Neuse	2,500	4.6	MOU	2/15/1999
Barra Farms	Cumberland	Cape Fear		622.94	Easement	3/19/1999
Stone Mountain State Park	Wilkes	Yadkin	10,622	24.36	Easement	5/5/1999
Hammock's Beach State Park	Onslow	White Oak		0.3	Easement	7/23/1999
Carteret-Craven EMC Wetland	Carteret	White Oak		4.14	Easement	11/19/1999
Payne Dairy	Alexander	Catawba	7,000	40.22	Easement	12/30/1999
Price Park	Guilford	Cape Fear	1,710	2.8	MOU	4/5/2000
Hoffman Forest Preservation Site	Onslow	White Oak		100	Fee Simple	4/6/2000
Nucor Steel Mill Site	Hertford	Chowan		150.27	Fee Simple	4/18/2000
Brush Creek	Alleghany	New	4,000	2.89	Easement	5/9/2000
Brush Creek	Alleghany	New	Above	7.78	Easement	5/9/2000
Contentnea Creek, Neuse River	Greene	Neuse		80	Easement	8/18/2000
Providence Road	Mecklenburg	Yadkin		8.809	Easement	9/27/2000
Providence Flat Swamp Forest	Mecklenburg			17.9	Easement	9/27/2000
Beamon's Run	Greene	Neuse		19.0	Easement	11/27/2000
Wilson Bay-Sturgeon City	Onslow	Onslow		3.06	Easement	12/18/2000
Hobbs Road	Guilford	Cape Fear		3.31	Easement	3/27/2001
Beaver Creek	Surry	Yadkin	4,000	9.2	Easement	4/25/2001
Bear Swamp Creek	Franklin	Tar-Pamlico	1,500	3.4	Easement	5/16/2001
Irwin Creek	Mecklenburg	Catawba	5,000	6.9	MOU	5/25/2001
Stewart Creek	Mecklenburg	Catawba	6,800	9.4	MOU	5/25/2001
Hominy Swamp Creek	Wilson	Neuse	2,232	3.9	Easement	6/6/2001
Reed Creek	Buncombe	French Broad	1,500	1.32	Easement	6/25/2001
High Vista	Buncombe	French Broad	3,500	4.3	Easement	7/9/2001
Jumping Run Creek	Harnett	Cape Fear	5,500	75.0	MOU	7/24/2001
Smith-Austin Creek	Wake	Neuse	9,500	33.42	Fee Simple	9/8/2001

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Property Name	County	River Basin	Linear Feet	Acres Surveyed	Type of Acquisition	Acquisition Date
Clear Creek	Henderson	French Broad	1,300	6.397	Easement	10/16/2001
Sandy Creek	Durham	Cape Fear	3,000	10.39	Easement	10/23/2001
Stillhouse Creek	Durham	Neuse	1,200	2.8	Easement	11/1/2001
Benbow Park	Guilford	Cape Fear	1,200	1.4	MOU	11/27/2001
Brown Bark Park	Guilford	Cape Fear	2,630	3.0	MOU	11/27/2001
Gillespie Golf Course	Guilford	Cape Fear	3,000	3.4	MOU	11/27/2001
Hillsdale Park	Guilford	Cape Fear	5,000	5.7	MOU	11/27/2001
Bertie Creek	Wake	Neuse	1,200	2.2	MOU	12/6/2001
Scott-Lamb Wetland	Pasquotank	Pasquotank		22.64	Fee Simple	12/31/2001
Howell Woods	Johnston	Neuse		139.86	Easement	2/8/2002
Little Beaver Creek	Wake	Cape Fear	5,000	40.924	Easement	3/15/2002
Snow Creek	Stokes	Roanoke	3,000	3.4	Easement	3/26/2002
Cross Creek	Cumberland	Cape Fear	2,400	5.0	Easement	4/9/2002
McIntyre Creek	Mecklenburg	Catawba	5,350	7.4	MOU	4/16/2002
Wike Stream	Catawba	Catawba	2,300	12.42	Easement	4/19/2002
Brown Branch	Caldwell	Catawba	6,500	8	MOU	4/28/2002
Forest Hills	Durham	Cape Fear	3,000	5.5	Easement	5/1/2002
Reedy Branch	Alamance	Cape Fear	2,500	5.7	Easement	5/1/2002
Ellerbee Creek	Durham	Neuse	2,500	2.9	Easement	5/2/2002
Billy's Creek	Franklin	Tar-Pamlico	1,800	4.1	Easement	5/6/2002
Haw River-Bouchard Preservation Site	Rockingham	Cape Fear		95.431	Easement	5/9/2002
Purlear Creek	Wilkes	Yadkin	17,000	31.0	Easement	5/14/2002
Mud Creek (Brevard Church Property)	Henderson	French Broad		14	Easement	5/15/2002
Middle Swamp Creek	Robeson	Lumber		11.0	MOU	5/17/2002
Whitelace Creek	Lenoir	Neuse	3,000	0.0	Easement	5/30/2002
Mine Site	Chatham	Cape Fear		38.4	Easement	5/30/2002
Moncure Site	Lee	Cape Fear		13.5	Easement	5/30/2002
Brushy Fork	Forsyth	Yadkin	5,000	6.9	Easement	6/4/2002
Pine Valley	New Hanover	Cape Fear	2,500	2.9	MOU	6/6/2002

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Property Name	County	River Basin	Linear Feet	Acres Surveyed	Type of Acquisition	Acquisition Date
County Line Stream	Buncombe	French Broad	3,500	0.077	Easement	6/29/2002
County Line Stream	Henderson	French Broad	Above	6.543	Easement	6/29/2002
Prestonwood G.C.	Wake	Neuse	3,000	3.4	MOU	7/1/2002
Maritime Museum	Carteret	White Oak		0.89	Easement	7/1/2002
Murphy Farm	Franklin	Tar-Pamlico	2,000	4.17	Easement	7/1/2002
Wake Forest C.C.	Wake	Neuse	3,400	3.9	Easement	7/18/2002
Boiling Springs	Brunswick	Cape Fear	1,500	Allocation	Easement	8/8/2002
Richland Creek	Wake	Neuse	300	0.5	Easement	8/12/2002
Cane Creek	Alamance	Cape Fear	1,500	1.7	Easement	9/5/2002
Purlear Creek (II)	Wilkes	Yadkin	4,500	10.3	Easement	9/27/2002
Maritime Museum	Carteret	White Oak		0.89	Easement	9/30/2002
Charles Creek	Pasquotank	Pasquotank	1,500	1.7	MOU	9/31/2002
Little Beaver Creek	Wake	Cape Fear	5,000	7.5	Easement	10/2/2002
Hendersonville	Henderson	French Broad		14.0	Easement	10/15/2002
Little Bugaboo Creek (five owners)	Wilkes	Yadkin		11.03	Easement	12/10/2002-03/12/2003
Louisburg Creek	Franklin	Tar-Pamlico		3.02	Easement	12/13/2002-01/14/2003
East Group Buffer	Pitt			2.28	Easement	12/27/2002
Knobs Creek	Pasquotank	Pasquotank				12/31/2002
North River	Carteret	White Oak			MOU	12/31/2002
North River (II)	Carteret	White Oak			MOU	12/31/2002
Cato Stream	Mecklenburg	Yadkin		6.322	Easement	1/8/2003
Chavis Branch, (Chavis Park)	Wake	Neuse		4.63	Easement	2/10/2003
Bushy Branch, (Kentwood Park)	Wake	Neuse		2.906	Easement	2/10/2003
Carper-Harris Wetland	Pasqoutank	Pasquotank		67.81	Easement	3/14/2003
Suck Creek	Moore	Cape Fear	2,700	9.22	Easement	3/17/2003
Kiser Stream and Flood Plain	Alamance	Cape Fear		15.53	Easement	3/27/2003
UT to South Fork Creek (two owners)	Alamance	Cape Fear	5,000	26.5	Easement	3/27/2003-5/16/2003
Little River Wetland	Moore	Cape Fear		125.77	Easement	3/28/2003
Big Warrior Creek	Wilkes	Yadkin	8,500	3.063	Easement	5/08/2003-5/12/2003
Total				**2063.392**		